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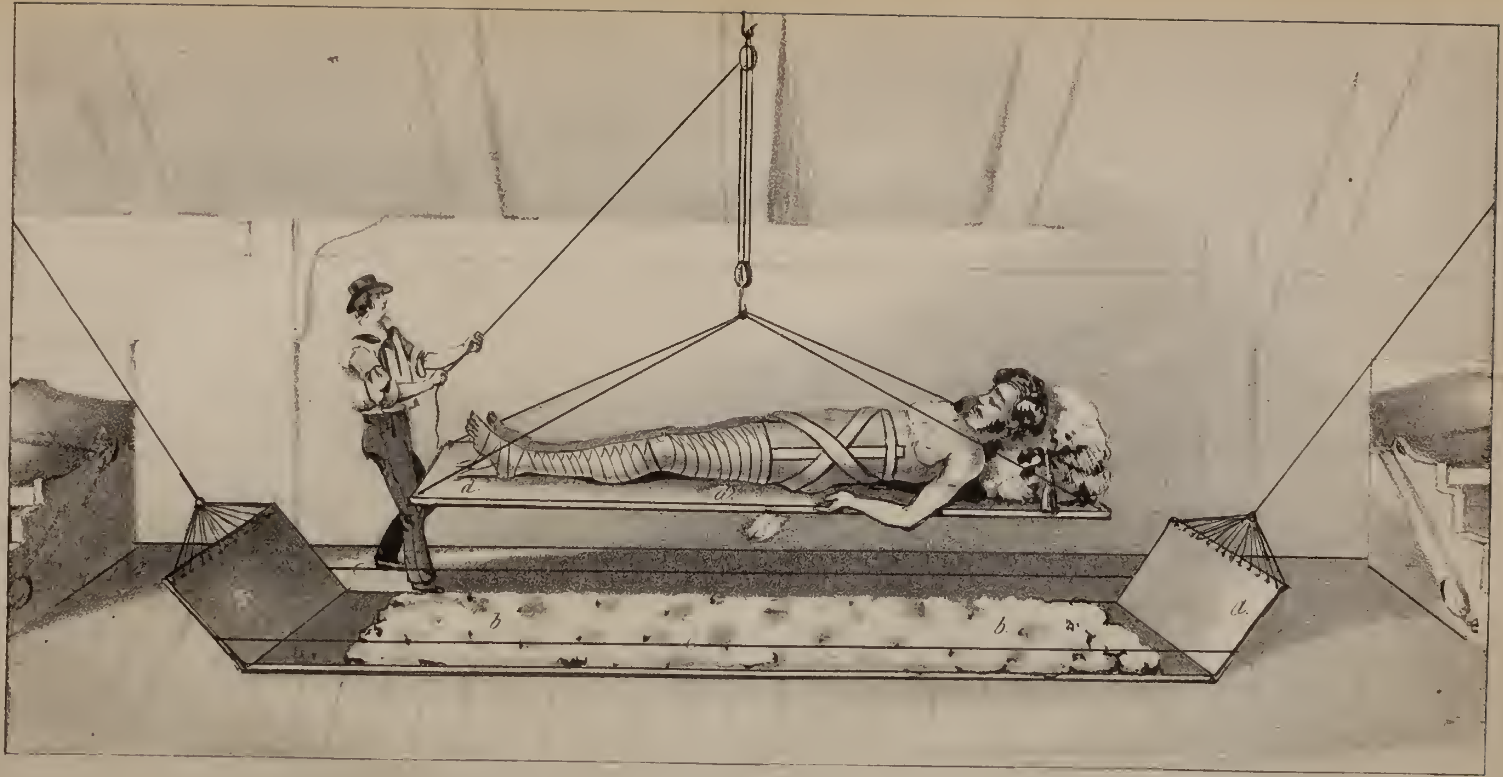

COT FOR THE TREATMENT OF FRACTURES AT SEA.

BY J. M. FOLTZ ESQ. SURGEON U.S.N.

For description see P. 45

THE NEW YORK
JOURNAL OF MEDICINE,
AND THE
COLLATERAL SCIENCES.

EDITED BY

SAMUEL FORRY, M. D.

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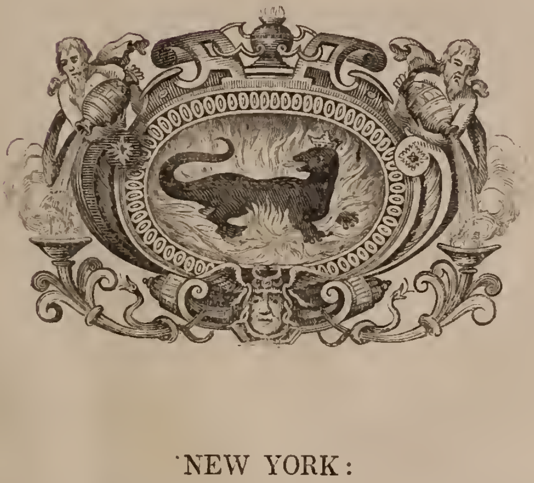

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Meteorology: comprising a description of the Atmosphere and its Phenomena, the Laws of Climate in general, and especially the Climatic Features peculiar to the Region of the United States, with some Remarks upon the Climate of the Ancient World, as based on Fossil Geology. By Samuel Forry, M.D. With thirteen illustrations. New World, 1843. 116

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TO READERS, CORRESPONDENTS, ETC.

The following works have been received:

Hamburgs Clima und Witterung: Ein Beitrag zur Medicinischen Topographie von Hamburg, so wie zur Climatologie von Deutschland überhaupt. Nach vieljährigen Beobachtungen bearbeitet, von H. M. Buek, Med. et Chir. Dr. Hamburg, 1826. (From Dr. Oppenheim.)

Hamburgs Krankheitsconstitution in Jahre 1841, nach dem Berichten der Herren Armenärzte zusammengestellt von Dr. B. Gädechens. (From Dr. Oppenheim.)

On the Preparations of the Indian Hemp, or Gunjah, (Cannabis Indica); their effects on the Animal System in health, and their utility in the treatment of Tetanus and other convulsive diseases. By W. B. O'Shaughnessy, M. D., Bengal Army, late Professor of Chemistry and Materia Medica in the Medical College of Calcutta. (From the Author.)

Pathological and Surgical Observations on the Diseases of the Joints. By Sir Benjamin Brodie, Bart., F. R. S., Sergeant-Surgeon to the King, etc. Philadelphia: Lea & Blanchard. (From the Publishers.)

The Physical Diagnosis of the Diseases of the Lungs. By Walter Hayle Walshe, M. D., Prof. of Pathological Anatomy in University College, London, etc. Lea & Blanchard, Philadelphia. (From the Publishers.)

Physiology Vindicated, in a Critique on Liebig's Animal Chemistry. By Charles Caldwell, M. D. (From the Author.)

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Lithotripsy; or the Breaking of Stone in the Bladder. By Alban Goldsmith, M. D., late Professor of Surgery, &c. New York: 1843. (From the Author.)

Albany Journal of Neurology, devoted to Physiology, Medicine, Phrenology, and the Philosophy of Mesmerism, conducted by an Association of Physicians. July, 1843.

The American Journal of the Medical Sciences. July, 1843. (In exchange.)

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⁂ For Prospectus see fourth page of the cover.

THE NEW YORK

JOURNAL OF MEDICINE.

FOR JULY, 1843.

PART FIRST.

Original Communications.

Art. I.—*The Endemic Influence of Evil Government, illustrated in a View of the Climate, Topography, and Diseases of the Island of Minorca, with an Account of its Medical Faculty,–of the French Military Hospital on the Isle de los Reyos,—and of the Statistics of the United States Naval Hospital at Mahon, for the Years* 1839, '40, *and* '41.—By J. M. Foltz, A.M., M.D., Surgeon U. S. Navy.

The Island of Minorca has been made familiar to the medical world by the valuable work of Cleghorn, who held the situation of Post-Surgeon, at Fort St. Philip, from the year 1744 to 1749; and such is the accuracy of his observations and the systematic regularity with which they are recorded, that even after the lapse of a century, they constitute one of our best models for the medical observer of the present day. At that period, the Island had for many years been one of the most flourishing of the British Colonies, with an enterprising and prosperous population, numbering more than double their present amount; while at this day, nearly half a century after its restoration to Spain, we find poverty, wretchedness, misery, and disease, to an extent almost incredible. In a medical point of view, these facts are of the highest importance, affording an opportunity rarely met with, carefully to trace the endemic influence of laws and government upon a people isolated in consequence of being surrounded by the ocean, while the climate and other physical causes which exercise an agency upon the human constitution, are found to be precisely the same.

This Island having been the depot for the United States naval forces in the Mediterranean for more than twenty years, it was found expedient to establish an hospital here, for the reception of such cases as could not receive the necessary comforts or appropriate treatment on board crowded ships of war. Having served as surgeon to this naval hospital in the years 1839, '40, and '41, during which time we were necessarily a resident of the Island, there came under our daily observation, its diseases, the character of the climate, and the condition of the medical faculty; and as we kept a journal of events, which we shall here endeavor to reduce to the narrowest limits, together with the statistics of the hospital, the results cannot but be interesting to the medical inquirer. They may moreover prove of some utility to those who follow us upon the same grounds, or may communicate hints to the valetudinarian who blindly rushes to the Mediterranean in search of health, with often the sad result of thereby accelerating his death. We humbly submit our mite towards augmenting the aggregate stock of knowledge; and if we shall contribute but a single fact to a profession whose chief duty it is to diminish the amount of human suffering and pain, we shall be sufficiently rewarded in the consciousness that our labors have not been wholly in vain.

I.—THE CLIMATE, TOPOGRAPHY, AND DISEASES OF MINORCA.

Minorca is situated in 40° north latitude, and 5° east longitude from Greenwich, and is about equidistant from the southern coasts of Europe and the northern shore of Africa: two lines drawn, one from Gibraltar to Rome, the other from Marseilles to Algiers, will intersect each other at right angles on this Island. Its extreme length is thirty-two miles, and its average breadth about fourteen, forming an irregular oblong square, extending northwest and southeast. Its principal historical importance is due to its having been the rendezvous of Hannibal upon his invasion of Italy. Its incomparable harbor of Mahon derives its name from his brother Mago, who here organized a regiment of slingers, who distinguished themselves in the Punic wars; and, for this dexterity in the use of the sling, the peasantry are still remarkable after a lapse of two thousand years.

In recent times, this Island has alternately belonged to Spain, France, and Great Britain. From its peculiar geographical position and secure port, it will likely continue to remain as a bone of contention among the rival powers of Europe; and to France, in particular, it has become of peculiar value, since their occupation of Algiers. The British forces took possession of the Island in 1708, and it remained under their power, with an interval of sixteen years, until 1802, when it was restored to Spain in conformity to the Treaty of Amiens, having since remained in the Spanish possession; and from that period to the present time, it has continued to share the reverses and misfortunes of its ill-fated parent country. We see on every side the evidence of its former wealth and commercial prosperity,—large store-houses, extensive public buildings, good roads, and an almost impregnable fortification, all in a state of ruin and dilapidation.

The physical characters of the Island are peculiar, and exert a strong influence upon its vegetable and animal productions. The entire Island is composed of calcareous limestone, presenting a bold and rock-bound coast to the sea, with a rough and broken surface, throughout its whole extent. Its northern portion may even be said to be mountainous; its most elevated peak, Mount Toro, having an altitude of two thousand one hundred feet above the level of the sea.

The northern shore of the Island is indented by numerous deep bays, occasioned by the violence of the sea, whose waves, beating upon it age after age, have been urged on by the storms, which have ever been proverbial for their severity in the Gulf of Lyons; while the southern shores of the Island, which are not exposed to so heavy a surf, but are fanned by the genial airs from the coast of Africa, are regular and unbroken from end to end. A broken and hilly aspect, with naked rocks and fragments of stone, is presented over the entire surface of the Island; and its scanty soil has been carefully turned to the best account, by a diligent cultivation of their small fields, enclosed with high stone-walls. There are no streams of fresh water in the Island deserving of the name; and as the few rivulets, which during the winter season are swollen, disappear entirely during the long drought of the summer, the inhabitants are obliged to obtain water from wells for the purpose of irrigating their gardens, or to depend upon the rain water collected in the cisterns, which last is the only drinking water that they have. Each house is furnished with a cistern, in which large quantities of water are collected during the rainy season; and notwithstanding it is often kept four and six months, it is found much better than the water kept in the same manner that we have met with in other countries. Water, however, is little used by any class of the natives, as the light wines are of such abundance that all classes make them their chief drink. Coffee is so expensive as to be within the reach only of the few, and tea is never used but as a medicine. The road constructed by the English from Cendadella, on the western extremity of the Island, to Fort St. Philip on the east, divides it into nearly two equal parts, and forms the boundary between two sections of the Island, each of which is important in its medical, as well as in its physical features.

The country north of this road is rough, rocky, sterile, and unhealthy; while that to the south is more regular in its formation, more fertile, and much more salubrious. In the south are to be found many beautiful valleys, cultivated with great care, and yielding large crops of corn and wine; but there is one feature which gives to the landscape an unpleasant aspect, its destitution of trees,—a result which is attributed to the violence of the winter winds. The fig and vine, which are carefully cultivated wherever the ground is sheltered, yield their delicious fruits in abundance.

The great diversity in the fertility of the soil and in the state of agriculture, in the northern and southern sections of the country, is peculiarly exhibited in the domestic animals. Those from the south are large, well-formed, and in good condition; while those from the northern rocky shores, are stunted and poor. A mere glance at the cattle in the market renders it unnecessary to inquire from which section they came.

The mean annual temperature of Mahon is found to be higher than that of Naples or Gibraltar, in the same latitude, and washed by the same sea. This is doubtless due to the circumstances that Mahon is surrounded by the ocean, and is not, like the two former localities, exposed to the cold winds sweeping from the snow-clad mountains of Italy and of Spain. The mistral, which descends with such intense severity from the maritime Alps upon the plains below, have, on reaching Minorca, been tempered in their long passage over the sea; and although snow falls annually on the shores of the Mediterranean, yet we never saw it at Mahon. Storms of hail, however, are very frequent and very violent. It is the prevailing impression that the climate of Europe has become very much meliorated in modern days, and that the winters are neither so cold nor so protracted in duration, as during the time of the Romans. Although, in the absence of regular thermometrical observations, (the thermometer being an instrument of modern invention,) we are unable, as regards the general question, to come to any precise conclusion; yet daily observations, carefully recorded at Mahon for more than a century, conclusively prove that here at least, for a period of one hundred years, the climate remains precisely the same.* Upon a careful comparison of the mean temperature of the four seasons, on an average of four years, embracing 1740 and 1840, the ratios were found to be almost precisely the same; and the record of the winds, as kept by Cleghorn, corresponds in each season of the year, with those kept at the time of our residence upon the Island.

Meteorological observations are carefully made by the monks at their monasteries; and the writer would take this opportunity thankfully to acknowledge the cheerfulness with which they allowed him access to these records. A rain-gauge was not kept; but we are enabled, notwithstanding, to state the mean for the years 1839 and '40, which is forty-nine inches. The mean temperature of the year is 61°.31, and of the seasons as follows:

---

* In the two works recently published by Dr. Samuel Forry, entitled "*Meteorology*," and "*The Climate of the United States and its Endemic Influences*," this question is very fully investigated. He shows, from abundant historical evidence, that ever since the time of the first Roman emperors, the climate of Europe, as regards the mean annual temperature, has experienced no appreciable change, and that the most remarkable extremes of heat and cold have been frequently recurring; and from this extensive survey of historical facts, he arrives, contrary to general opinion, at the following conclusions:

"All observations then, thus far, confirm the belief in the general stability of climates. As regards the seasons, it will be shown, however, that in countries covered with dense forests, the winters are longer and more uniform than in dry, cultivated regions, and that in summer, the mean temperature of the latter is higher. Hence, *in regard to the opinion generally entertained, that the climate of Europe has been very much meliorated since the days of Julius Cæsar, it is clearly apparent, from the foregoing facts, that it is far from being sustained by evidence sufficient to enforce conviction.* But, at the same time, while it is obvious that no material change has taken place, for the last two thousand years, in the climate of Europe, the conjecture that it has gradually acquired rather a milder character, or at least that its excessive severity seems on the whole to occur less frequently, appears to be warranted. . . . Dense forests and all growing vegetables, doubtless, tend considerably to diminish the temperature of summer, by affording evaporation from the surface of their leaves, and preventing the calorific rays from reaching the ground. It is a fact equally well known, that snow lies longer in forests than on plains, because, in the former locality, it is less exposed to the action of the sun; and hence the winters, in former years, may have been longer and more uniform. As the clearing away of the forest causes the waters to evaporate and the soil to become dry, some increase in the mean summer temperature necessarily follows"

In a work by the late Noah Webster, LL.D., still more recently published, entitled "*A Collection of Papers on Political, Literary, and Moral Subjects*," this same question is most learnedly discussed in a dissertation of forty-four octavo pages, "*On the supposed Change in the Temperature of Winter.*" So general is the opinion that the temperature of the winter season, in northern latitudes, has suffered a material change, and become warmer in modern than it was in ancient times, that "*I know not*," says Dr. Webster, "*whether any person, in this age, has ever questioned the fact.*" From a most extensive examination of ancient writings, in the Hebrew, Greek, and Latin, he confirms and establishes most conclusively the deduction arrived at by Dr. Forry.

Spring.	Summer.	Autumn.	Winter.
58°.08	72°.80	64°.14	50°.22

The mean annual temperature is nearly two degrees higher than that of Rome, the difference being caused by a milder winter.

The winds at Minorca constitute the most important climatic feature. During the winter there is almost a continued tornado from the northwest, while in the summer months there is an almost uninterrupted calm, or light airs from the south. The sea-breeze, which sets in about eleven o'clock, A. M., is not so strong, nor so regular, as in larger islands; and inasmuch as the dwellings have all been erected with a view to protection from the northwesters, the inhabitants enjoy but little of the refreshing air from the sea, during the intensely hot and long summers. The prevailing winds are from the north and west; and violent gales come from that quarter only, carrying with them the spray of the sea, and leaving a deposit of salt upon every part of the Island. Even plants newly grown on the most elevated parts of the country, will, upon tasting them, discover this spray. The gales of the winter, which blow with terrific violence, injuring trees, walls, and houses, have for ages been the terror of the navigator; but they are generally of but a few hours' duration; and such is their effect upon the clumps of bushes and stunted trees, that their trunks and branches are always inclined to the south. The south wind is mild and gentle, and the sirocco, which is felt with great severity at the neighboring Islands of Sicily and Sardinia, never reaches here; and thus do the inhabitants possess an exemption from one of the greatest evils of the Mediterranean.

Diseases of Minorca.—The history of the diseases of Minorca, as given by Cleghorn, exhibits, as compared with the present, a complete revolution in their character within the century; and, as the meteorological observations prove that the climate remains the same, we must look to other causes for this change in the condition of the people. These causes have obviously their origin in the *endemic* agency of bad government, and perhaps nowhere can its influence upon the moral, intellectual, and physical condition of man be so strongly and so clearly traced, as in this little Island. The laws of an inscrutable Providence seem to ordain that all nations shall carry with them the principles of youth, maturity, and decay; but in this people, the transition has been so rapid, that we may safely attribute the change, more to the oppression and tyranny of man, than to the operation of natural causes. In the change of government from freedom to oppression, accompanied with a change from activity to idleness, and from the cheerfulness of prosperity to the gloom and despondency of poverty,—we may clearly trace the cause of increased disease, infirmity, and decrepitude; and such has been the extraordinary change produced in this people within a century, that, were it not for the incontrovertible testimony of the excellent man whose work is before us, we would not be willing to give credence to what we must be convinced is the fact.

The Island at that time contained a population of forty thousand; and such was the vigor and general health of the community, that in a five years' residence, Cleghorn did not "meet with a single individual who was lame or deformed," and "cases of paralysis were of extremely rare occurrence." At present, the population is only eighteen thousand, and the streets and highways are crowded with the maimed, the halt, and the blind. The number of poor and mendicants is so great, that the inhabitants are unable to maintain an hospital. Besides, the onerous contributions and heavy taxes, levied for the support of the troops during the protracted civil war, have almost made paupers of the whole community.

A few families who still have it in their power, distribute alms on fixed days in the week, which collects all the beggars in the vicinity; and, on these occasions, we have counted upwards of one hundred and fifty from our window,—a host which must have belonged to the town alone, which contains a population of only seven thousand. Many of these beggars formerly had houses of their own; but having long been without employment, they are now without food, and are reduced by disease to the lowest stage of distress and degradation. Such of the citizens who were formerly in affluence, are at present barely able to live, and those who enjoyed the necessaries and comforts of life, are reduced to poverty. It is seldom that we have entered a dwelling, from the noblesse to the pauper, that we did not hear lamentations on account of their changed condition,—dwelling with pride upon their former wealth, and sighing over their present depressed state, from which no effort of the most industrious and frugal life can extricate them. The laws paralyze every effort of industry, the very appearance of success and thrift, even in the laborer and tradesman, being followed by increased levies from their insatiable rulers; and such callings in life, which elsewhere are disreputable and degrading, are here openly pursued by the most respectable of the inhabitants. It is no disgrace, for instance, to be engaged in smuggling, gambling, and the slave trade, the propriety of these occupations being never brought in question; and at the last of these pursuits, some large fortunes have recently been made.

The most industrious of the population have abandoned the Island, and many are still leaving, the tide of emigration flowing towards New Orleans and Algiers; and, should it continue at the same ratio in which it has gone on for several years, this Island, so much favored in its climate and harbor, will soon be literally depopulated. Two thousand persons emigrated during the year 1840; and when it is remembered that they are the young, the active, and the enterprising, leaving behind the aged, the infirm, and the helpless, its effect upon this small population must be evident. We were informed by those best capable of forming a correct judgment, that two-thirds of the community are females,—a conclusion which our own observations would confirm.

The continued operation of the depressing passions, and the want of the necessaries of life, are the causes of the vast amount of disease to be found in the present day among the inhabitants; and it is to the agency of these endemic causes that the premature old age, which obtains among these people, who at forty-five and fifty present all the decrepitude and infirmities which, on the continent, are only met with twenty years later in life, are to be ascribed. The Church itself has, doubtless, exerted an unfavorable influence upon the prosperity of the Island; for there are a large number of priests, who must necessarily be supported by those who labor; and, besides, the great number of religious festivals and holidays which are scrupulously kept, take from the natives much time, which, in their present condition, had better be devoted to some more immediately useful employment. The depreciation in the value of property is the strongest evidence of the change in the condition of the people: buildings which were formerly worth £10,000, can at present be purchased for £500; and large and comfortable dwellings may be rented for £5 per month.

Fevers.—The diseases formerly of most frequent occurrence were *fevers*, which then assumed a type never to be met with in the present day. Then they were violent in accession, rapid in their progress to malignancy, and often proving fatal within fourteen and twenty days. At present, notwithstanding fevers are common, they are almost invariably of a mild tertian form, and are only to be dreaded in their sequelæ, inasmuch as they rarely or never prove fatal of themselves.

Intermittent Fever.—This is the only form of febrile affection that came under our observation, and in four-fifths of these cases we found that they assumed the tertian type, differing materially from the intermittents of the United States. The paroxysm generally continues from ten to twelve hours, being preceded by a very short cold stage, rarely amounting to more than a slight chill or coldness of the extremities. The violent shivering common with us, is here unknown. The pyrexia is, however, much more violent: it is, in a majority of cases, accompanied with delirium, and it is invariably followed by a violent sweating stage, which prostrates the patient, and occasions great emaciation, with a deep yellow or brown complexion. From this condition, the sufferer is a long time in recovering; and when in the state of convalescence, he is peculiarly susceptible to organic disease upon slight exposure. It is these secondary affections, for which the intermittents prepare the patient, that usually prove fatal. These intermittents attack all classes, such as reside in the most comfortable dwellings in the city being no less subject to the disease than those who dwell in crowded and exposed hovels. The town, however, is more exempt from them than the country; and the farmer and laborer in the open fields, who, with their families, in most parts of the world, are blessed with more than the average proportion of health, as the inestimable prerogative of rural life, have here entailed upon them additional misery and misfortune. During the summer and autumn, when these fevers prevail, the peasantry are found in the fields with their heads bound up, feeble and exhausted, endeavoring to perform, during the remission of the paroxysm, a portion of the indispensable agricultural labor. These cases were found perfectly tractable when judiciously treated, and with prudence their return was readily prevented; but from the continued operation of the endemic causes heretofore enumerated, relapses were very frequent; and as these moral and physical agents were beyond the reach of professional advice, cases were daily presented in which the young and promising were gradually sinking under these renewed and oft-repeated attacks. Indeed, we were more frequently consulted by individuals who anticipated an attack, as to the best means of prevention, than for medicines to arrest the disease after it had once set in. The anticipations of an attack, in truth, appeared much more dreadful than the actual sufferings induced by the disease after it had been once developed.

In this state of anticipated evil, the natives are in the habit of resorting to many means for the purpose of warding off the disease. Among these, charms and amulets, and also protections and immunities from the priests, hold a conspicuous rank; and it were well if all their efforts at prevention were equally harmless. Not satisfied with these, however, they frequently drench themselves with the most powerful and drastic medicines, among which the pills of Morrison and the purgative mixture of Le Roy are in the most repute; and the amount of suffering they thus induce is incalculable, as they often develope more active and serious disease, which proves fatal, or at best procrastinates the recovery. The solution of arsenic, sold as a secret nostrum, is much used, and its fatal effects, particularly in developing dropsy, were frequently witnessed; but of these remedies we shall have more to say, when we come to speak of the condition of the medical faculty. Simply confining the patient to his bed, and giving a few doses of the sulphate of quinine, would never fail to arrest the paroxysms. If these cases, however, were attended with much hepatic derangement, the assistance of some mild mercurial purgatives or emetic, which we have always preferred, would generally suffice to make the disease yield; and the patient, in a few days, would be enabled to resume his ordinary avocations. It was, however, from the great liability to a recurrence, that we experienced difficulty in its management; and here we were so fortunate as to introduce a remedy, which speedily acquired great popularity, and came into general use throughout the Island.

Some years ago, while at Batavia, in the island of Java, we were informed by Dr. Fritz, for many years the surgeon of the Dutch Military Hospital there,—a locality characterized by a malignant and obstinate form of endemic intermittent,—that he found the following prescription more effectual than all others used by him; and to his warm recommendation of its use, we can add, from some experience with it in the intermittents which prevail upon the banks of our own Chesapeake as well as in Minorca, that we have found it more efficacious than quinine or any of the other preparations in ordinary use:

℞.——Pulv. Corticis Cinchonæ . ℥j
Supertart. Potassæ . . ʒij
Pulv. Caryophili . . ʒj
Vini Rub: (Port) . . Oj

M. Dose—One ounce to be taken every hour for six hours preceding the expected paroxysm.

This prescription was carefully preserved by the heads of most families, and was prepared by the apothecaries of the Island; and we had the satisfaction of knowing that its simple introduction relieved many, and accomplished no little good; but whatever degree of celebrity and reputation fell to our share in consequence, was more than counterbalanced by our horrid practice of insisting upon cleanliness, and obliging the patient to wash and shave himself,—measures which the native practitioners and patients consider very improper in this disease; and so loyally do they act up to this belief, that an individual suffering from the tertiana in Minorca, may often be known by a long beard and an unwashed face.

Neuroses.—Next in the order of frequency, but first in point of fatality, stands that long catalogue of distressing diseases of the nervous system, termed *neuroses;* and they are to be found here, from the most insidious forms of neuralgia to the aggravated modifications of paralysis and mania. This class of affections, which, in the days of Cleghorn, were seldom encountered, are at this period the prevailing complaints. Extensive observations carefully conducted, among the residents of the interior, as well as the citizens of the town, prove that at present this class of diseases, particularly the more aggravated forms affecting the encephalon and spinal marrow, are more frequent and more fatal in their progress and termination than any other; and these affections assume every protean form, from apoplexy and mania to the milder forms of partial derangement and hypochondriasis. The number of cases of hemiplegia and paraplegia to be found in this community, far exceeds in amount the average number of any other district with which we are familiar; and they embrace every age, class, and station of society. The milder forms of monomania and mental despondency are so frequent, that the physician must be prepared to meet them in almost every adult that he is called to see; and he will find his patient anxious to detail to him his misfortunes, loss of property, pecuniary embarrassments, and the dread of approaching poverty and want; and these causes combined not unfrequently drive the poor unfortunate to suicide. In these cases, professional services are often of only temporary benefit, as the infirmities, induced by the mental distress and dejection, notwithstanding relieved for the time, will be sure to return with increased severity, as the causes still continue to operate. It is thus sufficiently obvious that here is presented a wide field for the philanthropist, who could realize even more than his brightest hopes, simply by removing the endemic agency of a bad government in the establishment of a good one.

Insanity.—In the various cases of this disease which came under our observation, a majority were found in the better classes of society. We were forcibly struck with the mild and pacific character of the patients, and we could not learn that they ever evinced symptoms of raving or furiousness in their delirium. But notwithstanding the great number of cases of mental derangement, and the milder forms of monomania, but one case of idiocy, during all our residence, was brought to our notice; and that was in a lad of sixteen, whose peculiar craniological formation strongly confirmed the suspicion of congenital cerebral defect.

A detail of these cases is forbidden by the limits of this article,—a circumstance that we much regret, as some of them, we doubt not, would prove no less interesting to the profession than they were to us; and it is with pleasure that we are enabled to record our testimony in favor of the excellent and the efficient moral treatment, which we found, in many instances, bestowed by the relatives and friends; and this, in some cases, had been continued for years upon the unfortunate sufferers. Were any additional testimony necessary to confirm the superiority and the success of the moral treatment over all others, in every stage of mental derangement, we have many cases at hand which would incontrovertibly establish the point. We shall, however, here make the acknowledgment, that in the various cases in which our advice was given, we were often compelled to attribute the restoration of the patient much more to the kind and soothing attentions of the relatives and friends, than to our remediate measures; and this, too, not unfrequently, in cases in which active and energetic measures had been rigidly enforced, such as venesection, local bleeding by cups and leeches, counter-irritants, the shower-bath, emetics, purgatives, and even a mercurial course. In almost every case that occurred in adults, the cause of the malady was pecuniary embarrassments and the fear of poverty; for, among the Spaniards of the better class, who hold that manual labor is disreputable, the state of poverty is regarded with horror; and to this unfortunate mental condition, their natural irritability of temperament and strong passions materially contributed. In two cases, the disease was brought on by disappointed love; and this, with them, is truly their ruling passion. Just before our arrival a melancholy case occurred, in which both parties were under twenty years of age. The young man, rejected by the object of his attachment, stabbed her to the heart in her father's house, in the most central part of Mahon; and it is in the operation of this passion, that the temperament of the Spaniard is found to differ so much from the cooler and more rational resident of the countries of the north, thus making him in prosperity more joyous and cheerful, in adversity more sad and dejected.

Paralysis.—As regards this disease, we believe that there were but few cases on the Island in which we were not consulted; and notwithstanding the duration and hopeless nature of the disease, we were induced to obey by the urgent, and often imploring, solicitation of the sufferers, who, bedridden or crippled for years, eagerly sought relief; being willing to submit with delight to any course of treatment which we would recommend. Persevering with different modes of treatment, we had the gratification, in several cases, of at least relieving some of the most distressing symptoms; but, in most cases, our efforts were of but little avail. To Mr. Turnbull's remedy, strychnine, we gave a most faithful trial, using it in every form both externally and internally. In many cases, the mobility of the paralyzed member was much increased, and strong muscular contractions were brought on in members which had long been immovable; but in no one case was there any permanent benefit derived from its use. The means which we found of most service, were counter-irritants, (particularly where the discharge had been kept up for some time,) and a careful attention to the general health, relieving such symptoms as from time to time required our care, and leaving the case to time and nature. The preparations of iodine, particularly the hydriodas potassæ in small doses, were at times of service. In one case of a young woman, it was of much benefit. In another case of hemiplegia, acupuncturation of the tongue was followed by a most decided improvement in the powers of articulation; nor was this change only temporary, as is so frequently the case after this operation, but the ability to articulate continued from the period of the operation until the time of our departure from the Island.

Intemperance.—This most fruitful source of disease in the United States does not here exert its baneful influence; for, however much the Minorcan may be depressed by poverty, or degraded by want of education, from this vice he at least is free; and although wine of a good quality forms the ordinary drink of all, yet it is very seldom that an individual, even of the lowest classes, is found intoxicated. This, therefore, cannot be urged as one of the causes of the frequency of paralysis among these people.

Neuralgia Facialis.—Many persons, particularly females, suffer from this affection, which often assumes an intermittent character, returning at regular periods. We have even seen it assume a tertian type; and in confirmation of its being dependent upon the same causes which produce the tertian fevers, it may be added that the treatment with quinine, piperine, and tonics, was the most effectual. Indeed, a few large doses of quinine would generally allay the most intense neuralgic pain.

Cancerous Affections.—*Cancers*, including *lupus*, both in males and females, as well as *caries* and *necrosis*, are of very frequent occurrence; but they are almost exclusively confined to the poorer classes, who are badly sheltered and often suffer from the want of proper food. The country residents, who are more exposed to atmospheric vicissitudes than such as live in the town, are also very liable to these affections. We find that we have memoranda of seven cases of cancer accompanied with ulceration, in three of which the disease was situated in the lip; and we met with probably as many more, which were rapidly progressing to suppuration. In one of these, a male, aged thirty-two, the disease being situated on the lip, an operation had been performed for its removal about ten months prior to our seeing the case: the cicatrix had become indurated, and presented the peculiar metallic, scaly lustre, which precedes the ulcerative stage. This patient we placed upon the use of the liquor arsenicalis of Fowler, and gradually increased the dose, until strong symptoms of the poisonous operation of the metal were manifested; and so long as the system was under the influence of the medicine, the darting pains in the lip, which were at times very severe, entirely disappeared. The unfortunate sufferer became sanguine in the hope of a restoration to health,—feelings which we carefully cherished and endeavored to strengthen. These moments of hope and cheerfulness, however, were but of short duration; for, as soon as the impression of the arsenic abated, the disease returned with increased violence, and it has, doubtless, long ere this time, proved fatal.

Lupus.—Two cases of this disease, comparatively a rare affection in other countries, and almost unknown in the United States, were here peculiarly malignant; and in this small population they far exceeded, in severity and their dreadful consequences, the most frightful ravages of the disease exhibited in the large hospitals of London and Paris. In one case, nearly all the bones of the face were involved in these fungous ulcerations; and in the other, one eye was forced from its socket, the ulceration having entirely destroyed the nose and much of the contents of one orbit. Both these patients were males, who resided in the interior of the Island, and neither had ever suffered from any specific constitutional disease, which is so frequently the forerunner of these unfortunate cases. Simple cases of lupous tubercles, accompanied by discoloration and deformity, were very common, which, as they were not attended with pain, were the only inconvenience accompanying them. Our treatment of these cases was nearly uniform, directing the ordinary alteratives, particularly the preparations of iodine; and in the cases attended with ulceration, we had the satisfaction of seeing these remedies, when combined with stimulating dressings to the ulcer, of manifest benefit; but in such cases as were unattended with ulceration, and where the tubercles were indolent, we could not observe the slightest change for the better, after the most prolonged and careful attention. In several, the disease continued to advance with steady steps, at the same time that active remedies were regularly administered. The decoction of sarsaparilla, nitric acid, the iodides of iron and potassa, with local and general baths, were each in turn ordered; and, as before stated, where ulceration had taken place, they were used with decided benefit. As a local application, after having used the various mild and soothing remedies, several of the most extensive ulcers rapidly healed under the dressings of an ointment, consisting of iodide of sulphur, grs. xv., and lard, ℥ss. These cases were most frequent in persons still in their minority, or in the prime of life; and in those individuals advanced in years, who had suffered from the disease, it appeared to have worn itself out, leaving behind the melancholy marks of its visitation. It was chiefly, however, among the poor that these cases occurred. A cast was taken in a case in which the tumor was very large, and occasioned much deformity; and by the use of this, a regular and equable pressure was maintained upon it, thus diminishing the induration very materially. It promised at first a favorable termination; but the patient did not give it that careful attention which the nature of the treatment required.

Aneurism.—This is a very common disease; and as its nature and treatment are here but little understood, it generally proves fatal. As we attribute this affection to a diseased nutrition, we may be prepared to meet many cases of it at Mahon. Those of the large arteries, near the heart, are most frequent, and seldom are they confined to a single tumor; they are rapid in their progress, and speedily prove fatal. We made a post-mortem examination, in which five large aneurismal tumors were found upon the aorta and the subclavian arteries; and in this case, the only treatment that had been pursued was Morrison's pills, and at intervals large doses of quinine.

Our introduction to our medical *confrères* of Mahon, and into practice among the natives, was owing to a case of aneurism. Very soon after our arrival, we were invited by Dr. Regal to be present at an operation for securing the femoral artery in a case of popliteal aneurism; and as this operation had not been attempted here for years, most of the faculty had assembled on the occasion. Our first impressions, we must acknowledge, left but little desire to cultivate a further acquaintance. There are, however, among them several gentlemen of liberal education, and well qualified to take a higher stand than they are destined to hold in this community. The patient, a Spanish sailor, æt. thirty, had a large aneurismal tumor in the left popliteal region, with strong pulsations in every part of it; the size of the tumor was so great, that the limb from the knee down was œdematous, and pulsations could not be perceived in the arteries below the tumor; the individual was much emaciated, and in an unfavorable condition to undergo the operation. In dividing the superficial layers, much time was unnecessarily consumed, and unfortunately, the vein was opened, which produced a profuse hæmorrhage. After much delay, sponging, and tearing, the surgeon was unable to secure the artery. At this stage of the proceedings, our assistance was requested; and from the unfavorable condition of the case, we recommended immediate amputation. This, however, would not for a moment be listened to, either by the medical attendants or the patient. We, therefore, proceeded to make a fresh incision two inches higher, and passed a ligature around the artery, which, as soon as secured, arrested the hæmorrhage and pulsations in the tumor. The patient was now placed in bed, directed to be kept quiet, and one drachm of infusion of digitalis ordered every four hours. Notwithstanding the unfavorable prognosis, the case continued to do well until the twelfth day, when violent pain set in, which terminated in mortification of the foot. The ligature came away on the eighteenth day after the operation, and soon after, the line of demarcation distinctly formed in the middle of the leg; and, after months of suffering, the mortified parts were completely detached, leaving a very clever stump.

The unpleasant duty here devolves upon us to record the death of one of the most affluent and useful citizens of Mahon, in consequence of the officious interference of an ignorant surgeon, in a case of popliteal aneurism. M. Vidal, aged fifty, had enjoyed uninterrupted health for many years, devoting his time to the management of his estates and the enjoyment of domestic comforts. Discovering a small tumor under the knee, which gave him no uneasiness as it was unaccompanied by pain, he, nevertheless, as it continued to increase, sent for his medical attendant, who pronounced it an imposthume, declaring that he distinctly felt the fluctuation within. Promising to call again and open it, which he assured his too credulous patient would at once relieve him, he accordingly did so in the evening; and boldly plunging a lancet into the supposed imposthume, he opened the cavity of an aneurismal sac which was, of course, immediately followed by a copious hæmorrhage. By means of compress and bandage, he succeeded in arresting the bleeding for a time; and now leaving the patient in bed, he assured him that all was just as he had anticipated. The exhausted patient soon fell into a profound sleep, the hæmorrhage recurred, and during the night he awoke and found himself weltering in his blood. Scarcely able to articulate, time was only allowed to administer the last rites of the Roman church when the unfortunate patient expired.

In several cases of aneurism, in which we were consulted, we had the gratification by a rigid perseverance in the antiphlogistic regimen, venesection, perfect rest, and digitalis, as recommended by Valsalva, of seeing the most happy results follow. In the case of a watchmaker, the individual was enabled, after some time, to resume his usual avocations, and contribute to the support of his family.

Aneurism by Anastomosis.—A few cases of congenital aneurism came under our care; but they are not more frequent here than elsewhere. In their removal we rarely had recourse to the knife, as we found the natives invariably recovered slowly from operations; and, as regards union by the first intention, we do not remember having ever witnessed it, however small the lesion may have been. When these cases of nævi materni occurred in children, little difficulty was experienced in destroying them by repeated applications of the caustic potassa. We always took especial care to insert it well within the enlarged blood-vessels, and then waited until the parts had completely cicatrized before a second application was made. The time required for treatment by this method may be urged as an objection; but with the conscientious surgeon such an objection, when he comes to calculate the advantages of this mode of treatment, will have but little weight; and he will perhaps be quite agreeably surprised, as we were, on seeing the very small cicatrix left after the use of the caustic; and this, in cases in which the affection is seated in the face, is a matter of no small importance.

In another instance, a large aneurismal tumor, extending from the ear to the angle of the inferior maxillary bone, was much reduced in size by means of pressure with a piece of wood, carved to adapt itself over the surface, to which it was bound. Thus was a hazardous and painful operation avoided; and, in addition to the important blood-vessels involved, the individual was subject to an erysipelatous affection of the head, which interposed new obstacles to an operation.

Inflammatory Affections.—These never assume that violent and acute form on this Island that they are found to do on the continent, or in colder countries. Such as do occur, present themselves during the months of winter and spring, and are very easily controlled by depletion and the usual antiphlogistic remedies. Those cases only which are complicated with some previous disease, prove serious; but when there is but a single organ involved, the disease will yield much more readily in a native than in similar cases among the ships of the squadron.

Chronic gastritis and *enteritis* also occur, particularly during the summer and autumn. The latter, which is generally insidious in its approach, will be found very difficult of treatment among the natives, who, accustomed to the use of acrid and irritating vegetables, will rarely give that attention to diet which such cases require.

Dysentery.—In the midsummer and autumn, severe cases of acute inflammation of the mucous membrane, constituting violent forms of dysentery, prevail to some extent, but they do not now assume that violent degree that they formerly did. There is in these cases much tormina and tenesmus, with copious mucous and bloody evacuations. The accession of these cases was invariably without any premonitory symptoms; and, unless arrested by local blood-letting with leeches, they rapidly advanced to a fatal termination, the tongue being covered with a thick brown fur, and the breath being offensive. But the yellow, jaundiced appearance and highly malignant character, which this disease assumes on the coast of Africa and in the Indies, are never to be met with among the Mahonese, while those patients brought from Algiers to the military hospital at this place, presented these malignant symptoms.

Diseases of the Eye.—These in Minorca, with the exception of cataract, are found to have no higher ratio than obtains in other countries to the north, but the disease of *cataract* we met with in all ages and in all classes, to an extent far beyond anything that our experience has showed us elsewhere. *Ophthalmias* are not so severe in the accession, nor are they so violent in degree on shore, as those cases which occurred among the more robust sailors afloat. That they yielded, however, less readily to treatment, and were more serious in their consequences, we had but too many cases to prove.

Cataract.—This affection received much of our attention, having directed our care to its surgical removal; and as such operations were previously unknown here, the reports of the first cases rapidly spread, and brought many to us from all sections of the Island. Twenty-seven cases came under our observation, of which thirteen were in individuals under twenty-one years of age, one of which was congenital. The operation of extraction was performed upon seven patients; and of these, three had their sight restored, in two the vision was improved, and in the remaining two no benefit was experienced. In one of these last, an aged woman, after the removal of the lens, the incision in the cornea could not be made to unite, notwithstanding the most careful attentions and the employment of every means in our power; and ten weeks after the operation, the vitreous humors were discharged, and the eye collapsed without pain or inflammation,—a result which was, doubtless, owing to the bad habit of our patient, and the humidity of the apartments in which she was confined. The operation of couching was done three times; but in each case the lens or its capsule partially returned, and obstructed the axis of vision.

One of these patients, a beggar, after having the lens depressed in both eyes, was so much rejoiced at the restoration of his sight, by an operation attended with so little pain, that no sooner had we left his house, than he arose from his bed, went singing to a neighboring wine cellar, and congratulated himself upon his good fortune, by getting thoroughly intoxicated. The operation proved of course unsuccessful, and in consequence of his improper conduct, it was not repeated; and, indeed, he was no ways anxious for a second operation, inasmuch as he argued that so long as he was blind, he would be certain of alms, but that with his sight restored he would be obliged to labor, and even after hard work, he would be destitute. The first case in which we extracted the lens, the individual, though aged, was in robust health. He had been deprived of vision for fifteen years; and, in this instance, the operation was followed by complete success. In another case, a priest was again enabled to discharge the duties of his holy office; and he offered up in our behalf the most fervent prayers that we would join his faith and die a Christian, instead of a heretic, which would be sure to be followed by eternal punishment.

The case of congenital cataract was in a youth of seventeen, and the operation of keratonyxis was performed, passing a couching needle through the cornea, on its superior and outer aspect. Upon introducing the needle through the capsule, the aqueous humor was immediately made turbid with the contents of a milky cataract; and after the lapse of a few days, we had the satisfaction of finding that the capsule was entirely transparent, and that the entire pupil was free from every vestige of opaque matter. The delight of this boy, at seeing for the first time the light of the heavens, exceeds description, it being expressed in the most extravagant and boisterous mirth. In puncturing the capsule of the other eye, we used the needle recommended by Mr. Jacobs of Dublin; but we found so much difficulty in passing it through the cornea, that notwithstanding the many advantages it possesses over all others, when once introduced into the chambers of the eye, we feel but little desire to use it again. The capsule of the eye last operated upon was slightly opaque on its lower surface, but still a large portion was in a proper condition for the transmission of light to the retina. The sensibility of the optic nerve was found to be much less than in its normal state, probably induced by its long inactivity. He was enabled to gaze at the sun without pain; but, as not unfrequently happens in similar cases, he was never able to fix the eye. Stars to him were invisible, yet he would watch the moon night after night with unceasing delight.

One of the first persons brought before him after the removal of the bandages, was the late lamented and gallant Commodore Hull; and he was unable to find words to express his astonishment at seeing the lustre of the sword, epaulettes, and the military trimmings of the naval uniform. The wild and involuntary rolling of his eyes would only permit him to get a glance at the glittering gold, and he depended most upon his cultivated sense of touch, to get fully acquainted with these objects of his admiration. This case, which promised so favorably, proved ultimately of less benefit than we had anticipated; the patient was never able to gain any control over the motion of the eye-balls; they continued to roll in wild irregular movements; and the stimulus of the light, instead of diminishing, increased this involuntary muscular action.

Various means were resorted to with a view to prevent these motions. Among others, the eyes were covered with a soft leathern belt, with a small hole directly over the axis of vision, but without any beneficial result. The operation was, however, so far of service to him, that he was enabled to go about without a guide, and to perform such labors in the fields, as would enable him to earn his bread. On one occasion we saw him engaged in gathering stones from a field; he would accurately get the direction and distance of the stone in the wild movements of the eye; then closing them, he would walk directly toward it, seldom failing in placing his foot upon the object of his search; and in this way only was he able to perform any labor.

The frequency of cataract we could attribute only to the intense glare of the sun, and the universal practice of white-washing. All houses and walls are covered with lime, and this is regularly renewed every Saturday in the streets and front walls; and we may here add, that notwithstanding the poverty of the Mahonese, nowhere have we ever met with so much cleanliness as among these people. The dwellings of those who often suffer from the want of food, are always in the most perfect order, and this cardinal virtue covers many of the iniquities of these people.

Ulcers.—From what has already been said, it may be anticipated that, in a community so much oppressed, where the vital powers are so much enfeebled, ulcerations are very common; but a mere statement to that effect would by no means convey to the reader the universal tendency which exists to ulceration, upon the receipt of the slightest injury, and the great difficulty that the surgeon will encounter in their treatment. It must be acknowledged, however, that in many instances this obstinacy and disposition to spread, are produced by the means resorted to for their cure; and we have often witnessed the use of the most irritating and injurious applications. This tendency to ulceration cannot be attributed alone to the general impaired health of the subject; for the muriate of soda, which either exists at all times in the atmosphere, or has already been deposited on the clothing or dressings, which come in contact with the abraded surface, no doubt contributes its full share. Injuries in the young and robust are quite as certain to terminate in ulcers, which often extend with great rapidity, as in the aged and infirm; but in the treatment of the latter class of patients they will be found the most tractable, as such persons will be more willing to submit to perfect rest. Indeed, without rest, they will invariably heal but slowly, and when the ulceration is situated in the lower extremities, it will be found almost impossible to heal them, unless the patient submits to the horizontal posture. With rest, however, and dressings carefully adapted to the condition of the case, especially when aided by the internal use of the mineral acids, the most protracted and aggravated cases were cured. The application of all ointments was uniformly of little service, and was consequently ultimately discarded; but by confining the applications to lotions, such as the solution of sulphas zinci, nitras argenti, and other astringents of this class, many cases which had resisted treatment for a long period, rapidly recovered.

A frequent consequence of these ulcerations in the lower extremities was varicose enlargement; and the operation for their obliteration, so frequently done with success in the United States, we were here unable to perform, in consequence of the inability of these people to support operations, and the great danger of phlebitis, of which we had some sad experience. We were consequently compelled to adopt a resolution in no case to resort to the knife, when there was any possibility of relief for the patient, or chances of prolonging life without it. It was only in the Mahonese that we found the patients obnoxious to these accidents after operations; for there were numerous instances in the squadron of individuals, who had been two and three years on the station, in whom recoveries from injuries and from operations took place, with the same immunity from unfavorable results, that prevails in the higher latitudes on the Continent of Europe or in North America.

We think that it has thus been clearly demonstrated that the evils, moral and physical, under which the Minorcans labor, have their origin in the endemic agency of a bad government. It is true that there are other causes in operation, as, for instance, humidity. The houses are built of a soft limestone, with very thick walls, the floors consisting always of stone and tile; and these walls and floors even in mid-summer, in consequence of their coolness, are ever covered with the moisture of the dew-point. Thus are the inmates constantly exposed to a humid atmosphere, regarded by many as a prolific source of disease,—a condition which prevails in their dwellings throughout all seasons. To this influence we were disposed to attribute, in some degree, the unsuccessful termination of several of our most important operations, particularly those upon the eye. This cause, however, is entirely subordinate to the endemic agents of a governmental origin already brought under notice; and that it has no agency in producing the increased ratio of disease, compared with the era of Cleghorn, is obvious from the fact that humidity prevailed to an equal degree, when the Island was in possession of England. Besides, when we consider that there has been no appreciable change of climatic laws, we are warranted in ascribing the chief agency in the production of the present moral and physical evils of the Minorcans to endemic causes having their origin in the administration of the public affairs of the Island.

It is thus seen that in the investigation of endemic influences, we are not to consider the agency of physical causes alone; for, equally potent with these are the social, moral, political, and intellectual conditions of a people.*

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* As these pages are passing through the press, we discover, from the following paragraph in the National Intelligencer, that the condition of the unfortunate Mahonese has not yet been meliorated:

"Horrible Destitution.—We find the following from Mahon (Balearic Islands), April 21, 1843, in the *Gazette des Tribuneaux:*

'This morning our port presented a sad and strange spectacle. All the poor of

II.—MEDICAL FACULTY OF MINORCA.

The Faculty at the Balearic Islands are under the direction of the Royal Medical Junto at Madrid, without whose license no one is permitted to practise medicine or surgery within the dominions of Her Catholic Majesty; and all persons violating this law are subject to a heavy penalty which may be imposed by any of the courts. This statute, intended for the promotion of medical science, is in reality, the great obstacle in the path of the advancement of the character of the profession in Spain; for the license can always be purchased in the present crippled state of the public treasury, and the course of professional education and examinations, necessary elsewhere, is not required to procure this royal permission. The medical sub-delegate for Mahon is Dr. F. Hernandez, a gentleman of liberal education and handsome professional acquirements; and there are several other medical men here, at the head of whom stands Dr. Sancho, whose abilities and gentlemanly deportment would secure to them a high rank, wherever such qualities are appreciated; but amid the ignorance and prejudices of Mahon, their light is under a bushel. These men are eclipsed in their professional celebrity by a host of uneducated and illiterate *Medicos*, who by means of bribes have obtained the royal licence; and, dealing in the nostrums and adopting the popular prejudices of the superstitious natives, they not only monopolize the practice, but what little money is paid for medical advice, is sure to fall into their hands. At the head of these is a man of much natural tact and cleverness, and who has not only placed himself at the head of the practitioners, but has also made himself one of the leading citizens of the Island. In early life he followed the avocation of a barber, which probably initiated him into the gossip and tattle which, even in more refined and fashionable cities, form so necessary a qualification for the success of the physician. To this, he unites great moral courage; he boldly plunges into every operation, and usually succeeds in making it redound to his credit, however fatal it may have been to his patient. It is scarcely necessary to add, that this is the individual who boldly plunged the knife into the popliteal aneurism of Mr. V., before mentioned, which occasioned his premature death. The British consul exhibited to me a urinary calculus, which this surgeon had extracted, a short time before

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the town (and they form nearly a third of the entire population), were assembled at break of day. The greater number blocked up the quay of customs, while others were swimming in the basin of the port, or were moving about in boats, of which they had taken forcible possession. Towards eight o'clock, the United States squadron, which had been here for a fortnight, and particularly two transports belonging to it, threw into the sea an immense quantity of old biscuit. The poor, who were swimming and in boats, picked them up, and some of them, so great was their hunger, ate them at the time, although saturated with sea water.

'Soon afterward the commandant of the fort came up with a considerable force and compelled the poor to retire to the interior of the town, which they did, uttering imprecations against the director of the customs. The cause of this scene was as follows: The American squadron having to renew its provision of biscuit, the commandant proposed to offer it to the municipality as a gift to the indigent. The offer was accepted; and the director of the customs was applied to for permission to land the stale biscuit free of duty. This was refused, and the commandant of the squadron, wishing to clear out his biscuit this morning, threw it into the sea, as has been stated. It was truly painful to see persons of all ages, and of both sexes, struggling in the water to catch a mouldy biscuit, and eating it at once.' "

our arrival; but unfortunately the patient, a shoemaker, had been taken from his work-bench, without any preparatory treatment, to the operating table, from which he was carried a lifeless corpse; and the stone was not removed until after his death. This individual monopolizes the most lucrative practice of the city; and with an ostentatious display of his property, throws into the background all his professional opponents. There are but few horses at Mahon, and to be able to keep one is the most conclusive evidence of being a *cavallerio.* This man accordingly makes his daily rounds to his patients, mounted. As Dean Swift says—

It is indeed, a very sorry hack,
But that's of course,
For what's expected from a horse,
With an apothecary on his back.

Carrying heavy holsters and pistols, with a golden band around his cap, this disciple of Æsculapius looks but little like an humble practitioner of the healing art.

In consequence of our introduction to surgical practice in the case of aneurism before mentioned, we were asked to do several operations, which gave us a reputation that would not have followed elsewhere. Cases flowed in upon us with great rapidity, from all directions, and in this way most of the remarkable cases came under our observation. Thus we learned much of the state of the profession, from the treatment pursued in those cases; and among these processes of cure, charms, amulets, and the superstitious influence of the Church, had a large share. The priest sells amulets to ward off and cure the tertian fevers; keeping a cross, they say, made from the fig-tree, over the heart, will have the same effect; and eating salt, while looking at the new moon, will also prevent fevers. We will not deny, however, in view of the influence of mind upon the physical frame, that the recurrence of a tertian, kept up perhaps by habit, may thus be sometimes prevented; but if these practices are not regarded by the reader as absurd in the highest degree, the two following examples will certainly rank as such.

We were called in consultation in the case of the wife of the Dutch consul,—a most estimable lady, with an interesting family,—who, at the time of our seeing her, was almost in *articulo mortis* from intussusception. In this condition, a sheep was brought into her chamber, slaughtered at the side of her bed, the omentum taken warm and reeking from it, and placed upon her abdomen,—a remedy that the native physicians assured the family would give immediate relief. On another occasion we were called to see the child of M. Orfila, a connexion of the distinguished President of the Medical Faculty of Paris, who is a native of Mahon. We found the little patient in the last stage of hydrocephalus; the pupils were dilated, and sensibility almost destroyed. On the crown of the head, a pigeon had been tied, the poor bird having been cut open and applied warm with the feathers on, the blood at the same time streaming down the little patient's face, imparting the most forbidding aspect, as it lay upon its mother's arms The doctor, during the same time, was lecturing, in a pompous and boisterous manner, upon the virtues of a warm dove—the emblem of innocence—applied to the head of an innocent babe, to draw out all the bad humors which may have collected there.

The medicines in universal repute for almost every disease which "flesh is heir to," are Morrison's pills and the purgative mixture of Le Roy. The former is for sale at every shop in the country, accompanied with a pamphlet in the Spanish language, printed in London, setting forth, in glowing colors, the incredible virtues of this panacea; all of which is readily believed by the ignorant, who swallow these pills without limit. Many instances of their injurious, nay fatal consequences, came under our observation. Among these was the case of a paymaster in the Spanish army, who, after six years of active service in the field, during the civil war, reached Mahon, worn down and exhausted by the incessant labors and exposures of the camp. Immediately after his arrival, he was placed on the use of Morrison's pills, taking large doses of them daily. The excessive purging increased the prostration under which he had previously labored, and mortification took place in one foot, which, after great sufferings, came off at the ankle. In another case, of an old friar who had suffered for years from asthma, these pills were directed in immense quantities, which were increased as he grew worse. At length, unable to take the pills, they were dissolved and administered in solution; and we were informed by M. Sintês, a most respectable druggist, that within six days he had taken more than five hundred pills,—a cause quite sufficient to put a period to his existence. Whatever good these pills may have accomplished in England, the evil that they have occasioned in this little Island will more than counterbalance; and it is much to be regretted, that such remedies are sent abroad, with all the emblazonry of noble patronage at home, only to deal misery and death among the unfortunate and too credulous, who suppose that, because they come from Britain, where the medical profession are known to possess so much ability, they must necessarily be useful for all the diseases for which they are recommended. Upon the mercenary authors of this wholesale murder rests a fearful and a dreadful responsibility, and although they may escape human laws, yet a retributive justice awaits them hereafter.

Our practice being in every case gratuitous, it soon became extensive; and we rejoiced to have it in our power to assist, by medical advice, the large number who were suffering from the want of it. But when fully engaged in the midst of our career, we were officially notified by most formidable bulletins from the medical sub-delegate, that, in consequence of our not having a licence from the Government at Madrid, we must for the future desist in our practice. At the same time, we were informed by him, that it was, on his part, only a matter of form, which he was compelled to adopt in virtue of his office, and that we might continue to render our services as heretofore. He assured us that there would be no further proceedings in the case; and accordingly, we continued to prescribe and operate whenever necessary; and in every operation of importance, a majority of the faculty, with the medical students of the town, were always present. In a short time, however, we were duly ordered to appear before the chief-justice of the Island, and answer to a long series of charges for operating and rendering medical advice, in the various cases duly mentioned, after having been notified by the proper officer to desist.

Trial by jury is here unknown, but fortunately the judge, before whom the case was brought, was our friend in return for some small service rendered to a member of his family. These proceedings at court were conducted with an ingenuity which would have been creditable to a Philadelphia lawyer, or some of the gentlemen of the long robe at Westminster Hall. We will, therefore, mention one or two of the most important points. The first case mentioned in the indictment was for having extracted a cataract from the eye of Mr. Escudera, in the presence of some ten or twelve of the citizens of Mahon; and although all these gentlemen were present, yet the fact of the operation was not proved to the satisfaction of the court. One did not look on while operating, another did not see the lens extracted, a third did not know the day of the month on which it was done, and a fourth stated that it was in the afternoon and not in the morning, as set forth in the indictment; all of which was deemed sufficient to acquit us of the charge. During the investigation, the judge received several abusive and threatening anonymous letters, the authorship of which was attributed to one of the native physicians, who, upon being charged with it, plead "not guilty." The writing was disguised, but, unluckily for the author, the very fact that he did not find an education necessary to the art of physic, served for his conviction; for, as the letter contained many errors of orthography, the judge directed him to write a copy of the letter as it was dictated to him in court; and, when compared with the anonymous letter, unfortunately for him, every error was found to correspond precisely, notwithstanding the handwriting was entirely different.

The decision of the court was in our favor, and the cost, amounting to forty dollars, was ordered to be paid by the Medical Association of the place; but this event was followed by an open declaration of war on the part of the united faculty, who drove us from the field by the following formidable document, through the hands of O. Rich, Esq., U. S. Consul, and Commodore Isaac Hull:—

"*Subdelegation of the Medical Junto at Mahon.*

"Sir,—It has been repeatedly complained of to the Medical Subdelegate of Mahon, that you gave and still give advice, and practice as a Physician and Surgeon among the citizens of Her Catholic Majesty's dominions, without the Royal licence. You are, therefore, hereby notified, positively and peremptorily, to discontinue all such practices for the future; and you are not permitted to perform the functions of a Physician or Surgeon to any other individuals than the Anglo-American citizens of your own country.

"I kiss your hand.

"F. HERNANDEZ, *Medical Subdelegate.*

"J. M. Foltz, *Surgeon U. S. Navy.*

After the reception of this missile, we declined giving our advice to such as applied for it; but a few days after, a child was brought to us from Barcelona, in Spain, with club feet, which was of a proper age and in an excellent condition for an operation. At the same time, a lieutenant of the Spanish army applied for aid, with a permission from the governor for us to prescribe in his case, which we offered cheerfully to do, on condition that permission would be also given to operate on the child; but this his excellency refused to grant. Still desirous to relieve the child, which had undergone the dangers of a voyage at sea for the purpose of having this operation done, we proposed to operate on board one of the ships of war in the harbor; but the father, a British subject and a man of some property, prudently declined, as he was convinced, should we operate after the positive refusal of the governor, that the opportunity would be gladly seized upon to impose on him a heavy fine. The child was, therefore, taken to Marseilles, at the hazard of another voyage at sea, to have an operation done, which could have been performed here in two or three minutes.

We have been particular in detailing these cases, as they will not only give a correct idea of the condition of the medical profession in Spain, but will also apprise the reader of the oppression of the government. The only hospital or charitable institution at Mahon is an hospital for foundlings, which is liberally endowed, having at this time about one hundred names upon its register entitled to its charities, among whom are twenty-seven children. Every child deposited here can ever after claim the shelter of the institution; and, although usually placed out to masters as soon as they reach a proper age, yet they ever look to this establishment as their home in after life. There is throughout the Island no dispensary for the distribution of medicines to the poor; and, so far as we could judge, there is but little charity to them from the medical men. They are, indeed, compelled by their own wants to ask some remuneration for their services, insisting usually upon some fee, and being willing to take the most trifling amount rather than to go away empty-handed. As we were ordered, shortly after these doctors' quarrels, for service afloat, the little ill-will occasioned for the moment was soon "in the deep bosom of the ocean buried." We shall, indeed, ever rejoice to hear of their individual and united prosperity, for there are among them many of whom we shall ever have the most agreeable and pleasing recollections, and we shall pray that the causes which have occasioned their present humble position may speedily be removed.

III.—FRENCH MILITARY HOSPITAL ON THE ISLE DE LOS REYOS.

Near the centre of the harbor of Mahon is the Isle de los Reyos,—a small island on which a large naval hospital was erected, in 1796, by Sir William Burnett, the present distinguished physician in chief of the British navy. This harbor, at that time, when the supremacy of the seas was contested with England by the combined navies of France and Spain, was the great naval depot of Great Britain in this sea; and it was from this port that Toulon was kept in blockade under Lords Nelson and Collingwood. Fort St. Philip, at the entrance of the port, was then one of the most formidable fortifications in the world, which, however, was blown up and destroyed before the Island was surrendered. The hospital erected for the use of the British fleet is still in a good state of preservation, consisting of two parallel ranges of wards, which would comfortably accommodate six hundred patients. These two wings are connected at either end by ranges of buildings, intended for the officers of the establishment, with the necessary offices of such an institution; and throughout, the buildings are well adapted for the purposes for which they were intended. During the summer of 1835, the cholera made its appearance in our squadron, and a portion of the building was appropriated for the use of the sick; but since then they have not been occupied.

The protracted wars in Algeria, where that indomitable chief, Abd-el-kader, has year after year subverted all the grand projects of the army of France, had filled the hospitals at Algiers to overflowing; and the French government applied for the use of the hospital at Mahon, for such of the sick as were able to be transported to this island,—an application which was promptly granted.

We visited Algiers in the summer of 1839, the first year of the war against the Bedouin chief, at which time the total number of troops in the colony was forty-five thousand. Since then, the number of troops has at various times exceeded seventy thousand, and disastrous as these campaigns have been, the number destroyed by their formidable enemies is but a fraction of those who fell victims to the climate. As nearly as we could ascertain from credible sources of information, there has been an average of three thousand deaths among the troops from dysentery and fever every summer, since the commencement of the war. When it is remembered that these troops all leave France in perfect health, and that they remain but a short time in Africa, it will be seen that this army has suffered dreadfully. Dysentery and fevers annually sweep their ranks, and not only are the hospitals crowded to overflowing with the sick and dying, but even the highways are strewed with them; and such are yearly their privations and sufferings, that none but a nation with the highest enthusiasm for military glory and renown, could endure them. The total number sick in the hospital at Algiers at the period of our visit, was near three thousand. These were accommodated in three hospitals; one was within the town, containing about five hundred, the other two were without the walls of the city, being large, spacious, and well supplied with every necessary. One stands on the east, the other on the west side of the town, constituting series of extensive stone buildings, one story high, erected for the cavalry of the Dey; but they have been converted into military hospitals, for which, in this warm climate, they are peculiarly adapted.

In the winter of 1839 and '40, a commission, consisting of a physician, a surgeon, and an officer of engineers, arrived at Mahon, and placed the hospital and apartments at the quarantine in a condition to receive the sick. The buildings throughout were placed in perfect order, and between four and five hundred beds were arranged for the reception of such invalids as could endure the fatigues of transportation from Algiers, a distance of two hundred and fifty miles; and early in the summer, every bed was occupied. As soon as sufficiently recovered, they were sent on to Toulon, and their places filled by weekly arrivals from the seat of war. Nine-tenths of these patients suffered from dysentery and enteritis, and very many died on their passage or immediately after their arrival. Such was the desire of all once more to see "*la belle France*," that many, in their dying moments, piteously implored to be sent on board the steamers, which were especially arranged for their comfort, convinced that only to leave the shores of Africa would ensure their recovery; and we were informed by the medical officers, that recoveries did in very many cases take place, which had been hopeless, and in which all attempts at a cure by any other means would have been unavailing. Such were the operations of hope, and of the love of home, upon the minds of these enthusiastic and gallant soldiers; and there can exist no doubt but that the establishment of this hospital was the means of saving many a valuable life.

The medical part of the hospital was under the charge of M. Hutin, and the surgical under that of M. Jourdan, both gentlemen of the highest professional attainments; and these principals were assisted by a corps of about thirty assistants, than whom no men could have been more devoted to their duties; and it is with much pleasure that we are able to record our testimony in favor of the humanity and kindness with which the sufferings and wants of these soldiers of France were administered to by their medical attendants. As further proof of the military character and honor of this chivalrous nation, we will mention that every medical officer, in addition to his oath of office, makes a solemn and public pledge of his honor, that in every case in which aid is required, he will render it with kindness and humanity; and faithfully did those at the military hospital at Mahon redeem their pledge.

We regret our inability to give the correct number of admissions, discharges, and deaths. The first and last were, however, very great, the mortality being evidently due to the malignancy of the diseases acquired in one of the most insalubrious parts of the globe, in which the most efficient medical treatment would be of little avail.

In the treatment, the influence of Broussais' school was very manifest; leeches and enemata, with mucilaginous and demulcent drinks, formed the basis of all remediate measures; and this treatment in recent cases, or in a less aggravated form of disease than was here presented, would doubtless have been very efficient. Having ourselves encountered this form of malignant febrile disease in its very hot-bed, at Batavia, in the East Indies, where the progress was so rapid that it often proved fatal within forty-eight and seventy-two hours from the time of the accession, we found that the only safety for the patient consisted in an energetic and vigorous treatment; and this disease of Africa presented many of the peculiar symptoms which were met with in the disease as presented in India, particularly in the derangement of the functions of the skin and liver, in which the prompt but judicious use of the lancet and mercury were loudly demanded. For the successful treatment of this disease in the East, we were indebted to the invaluable work of Dr. James Johnson on tropical climates; and much esteemed as that excellent work is in Europe and the United States, it is to the practitioner in intertropical climates only that its great merits can be known. From what we witnessed in the hospitals of Algiers, as well as that at Mahon, we were convinced of a similarity as regards the etiology, and we would have consequently rejoiced to have seen the same energetic treatment which we had found so effectual elsewhere pursued in these cases. In the violent diseases of warm countries, where the system is exposed to malaria and miasm, their progress is always rapid; and even in those milder cases, where the patient himself suffers but little, he usually survives a mere wreck, with premature old age and debility; all of which might have been prevented by a bold and active treatment in the early stages of the disease.

Various proceedings on the part of the French excited the suspicions of the Spanish government, and it did not escape the observation of that vigilant officer, Colonel Fitzgerald, her Britannic majesty's consul at Mahon, that France was looking toward an occupation of this group of islands, as her first step upon the explosion of the Eastern question, which at that time engaged the attention of all Europe. Careful surveys were made of the harbor, and the elevation and distance of the surrounding hills were accurately made by the French engineers; but, notwithstanding the care evidently taken not to excite observation, these measures were speedily followed by an order from Madrid, for the French to evacuate the hospital on La isle de los Reyos. This was effected in the spring of 1841; and it subsequently appeared, from the declaration of M. Jaubert, in the French Chambers, who held a situation in the ministry under the Thiers administration, that the cabinet had actually determined to occupy the Balearic Islands, as her first movement in the war. To this England would, doubtless, have interposed her protest,—a measure which would have been hailed with delight by the oppressed and helpless inhabitants of this valuable Island, with whom a change of government,—the only panacea for their evils, political and social, moral and physical,—forms the subject of their daily prayers.

IV.—STATISTICS OF THE UNITED STATES' NAVAL HOSPITAL AT MAHON.

At the period of entering upon the duties of hospital surgeon to the Mediterranean squadron, the force consisted of one hundred and sixty guns, with eighteen hundred men, under the command of Commodore Isaac Hull, with the Ohio (eighty guns) flag-ship. Subsequently a forty-four gun frigate joined the force, which increased the number of men to twenty-two hundred. The crowded state of ships of war, at all times, renders the situation of the sick on board extremely uncomfortable; and when the number of invalids is great, they materially interfere with the duties of the ship. At the same time that they impair her efficiency, the wet decks and exposure to atmospheric vicissitudes, materially retard their recovery. An hospital was therefore established at this port,—the depot for the squadron,—for the treatment of such cases of disease and accidents (to which sailors are peculiarly subject), as cannot receive the necessary comforts and attendance on board ship.

The building appropriated for the purpose was a large dwelling, situated on the borders of the town, and sufficiently extensive comfortably to accommodate about forty patients; but we have had more than sixty within its walls at the same time, embracing, however, many cases which could be crowded together without inconvenience to one another. Three weeks before our arrival, twenty-two invalids from the hospital, including one officer, sailed for the United States. Of these, seven had affections of the chest, five chronic enteritis, two stricture, two epilepsy, three rheumatism, one syphilitic iritis, and two were superannuated. Two died on the passage home. On the 17th of August, nine patients entered the hospital, who had just been admitted to pratique after twenty days' quarantine. They had last been upon the coast of Syria and Egypt, where at this season, the plague is always found; but which has never made its appearance on board our ships of war, notwithstanding they cruise in the Levant annually. Five of these cases had affections of the alimentary canal, one had a fracture, one phthisis, one syphilis, and one rheumatism. The case of phthisis was a native of New Grenada, having apparently been a long time in bad health, and having suffered, when young, from the epidemic fevers of the Magdalena river. When admitted he was much emaciated; he had copious expectoration of pus, hectic, and night sweats. Our treatment could only be palliative, and in the third week of his admission, he expired. Upon a post-mortem examination, tubercles were not only found in the lungs, but also in the meninges of the brain.

September 6th. Fourteen were admitted after having passed the summer cruising in the Archipelago. Nine of these cases were chronic diarrhœa, the consequence of dysentery, which had prevailed to some extent, but in a mild form, during the season. Two had ulcers, one secondary syphilis, one epilepsy, and one coxalgia. These cases presented nothing remarkable in their character, nor were they more difficult in treatment than such cases usually are in seamen; for they, be it understood, rejoice in availing themselves of every opportunity to "weather the doctor," and resort to every expedient to procure liquor and indulge in the worst of dissipation, notwithstanding it is always at the expense of much suffering, and not unfrequently even at the risk of life. As the poor sailor has but little to live for, often an outcast from friends and home, a wanderer upon the wide world, he is best satisfied, when disease and death approach, if his suffering can be abbreviated. We have ourselves witnessed many cases, considered incurable by the patient himself, in which, with the recklessness peculiar to a seaman, he has indulged in dissipation with a view of accelerating death; and from this indulgence he can be protected only by the unceasing vigilance of the officers.

A majority of the admissions were from diseases of the intestinal canal, which naval practitioners find among the most frequent, as well as among the most unmanageable of the diseases of seamen; and this tendency to gastric disease, especially in hot climates, is doubtless produced by the indigestible diet to which they are confined at sea. This follows from the fact, that the salt provisions are frequently kept years before they are served out, which, with the beans, ships' duff, and large quantity of spirits formerly issued, produce those severe forms of gastric affections, as well as dyspepsia, to which sailors are peculiarly subject. In the last named disease, the most judicious and careful treatment will be of little avail, so long as the patient is confined on board ship; but if a change to a residence on shore is made, with a mild farinaceous diet, more will be effected in a few weeks, than any treatment on board. When ulceration had taken place in the mucous membrane, which will be found to be the case in a majority of instances, the mineral astringents are found most effectual; and at the head of these remedies stands, agreeably to our experience, the acetate of lead, in doses of from one to two grains, twice a day, in combination with one-eighth of a grain of opium. This we have repeatedly known to cure the most inveterate cases supervening upon the severe forms of the dysentery of the tropics. The sulphate of copper, in doses of one-sixteenth to one-eighth of a grain, combined with opium or lactucarium, we have also used with benefit; but a careful attention to diet will be found the most important matter in such cases, to which, the use of enemata of cold water or a simple infusion of sem. lini will be useful adjuvants. No article of the materia medica, have we seen do as much good, in those chronic affections of the intestines, as the acetate of lead properly administered. Care should be taken that the preparation contain no carbonate of lead, from which alone unpleasant consequences are to be apprehended.

Case of Hemiplegia.—One of the most important cases under treatment at this time, was that of assistant-surgeon Van Wyck, who was affected with hemiplegia. As we had but a short time previously met with several of the cases of Mr. Turnbull, in London, in which the use of the strychnine was attended with benefit, we eagerly embraced this opportunity of prescribing this article; and from the youth and general good health of the patient, we entered upon the treatment, sanguine of success. The patient was twenty-one years of age, and had just entered the navy after a collegiate course, in which he had carried away the highest honors; and from his devotion to his profession, he promised much future usefulness. Within twenty-four hours of sailing from New York, he was seized with paralysis of the left side, which also deprived him of the powers of articulation. Three months elapsed from the time of being paralyzed, until he came under our care. From the time of the attack he had been subject to violent epileptic convulsions, which returned periodically, at intervals of about a fortnight. For this he had been copiously bled, which for the future was avoided as much as possible; and it was found that arresting the circulation in the extremities by means of a tourniquet, would seldom fail to put a stop to the convulsions, which is a method of treatment that we have practised with much success in the epilepsy of seamen,—a class of men who are very obnoxious to this disease. We have recently seen it mentioned in the European journals, that pressure upon the carotids will seldom fail to arrest epileptic convulsions; and from the benefit which we have so frequently witnessed, from pressure upon the arteries of the extremities, we could confidently anticipate the best results from interrupting the circulation in the carotids, in those cases in which there is so great a determination to the brain, as frequently to cause the production of lesions and effusions. The strychnine was ordered in solution, commencing with one-sixteenth of a grain, *ter in die*, and the paralyzed side was bathed once a day with a solution of nux vomica. The dose was gradually increased until one-third of a grain was taken, when spasms and involuntary muscular contractions took place in the paralyzed limbs. This manifestation of the influence of the medicine was hailed as a favorable symptom, and its use was now diligently persevered in, with the effect of increasing the spasmodic action to a great extent; but no additional voluntary motion was acquired. At the termination of eight weeks' use of the strychnine, as the convulsions became very violent, and the symptoms presented indications that the system was suffering from the medicine, its use was discontinued; and hereupon, these unpleasant symptoms gradually disappeared. At intervals, for several months, the strychnine was ordered in various forms, and in smaller quantities, but without any favorable result. A seton in the nape of the neck was of service; and after restoring his general health, he ultimately embarked for the United States in charge of his relatives, who encountered all the difficulties of a voyage to the Mediterranean, to restore him again to the family circle. In this case, as well as in the numerous instances in which the strychnine was administered among the natives, the favorable consequences did not follow which were met with in the hands of Mr. Turnbull.

Upon the termination of the quarter ending the 30th of September, twenty-two patients were under treatment in the hospital, including three officers. Of these, five had affections of the chest, nine of the intestinal canal, two syphilis, one fracture, one epilepsy, two rheumatism, one coxalgia, and one ulcer. One patient had died during the quarter from tubercular phthisis.

For the quarter ending the 31st of December, 1839, sixty-two had been admitted. Of these, thirty-one were cases of itch, in boys, who were immediately transferred to the hospital, to guard against a propagation of the disease in crowded ships. This affection is one which is very prevalent among seamen,—a liability attributable in a great degree to their diet; and, as may be anticipated, difficulties are presented in its cure, which are seldom or never encountered in private practice. Five of the cases resisted the administration of sulphur externally and internally; but the eruption speedily disappeared under the use of an ointment of the iodide of iron, with small alterative doses of the proto-iodide of mercury, prohibiting at the same time the use of stimulating animal food. There is in this disease unquestionably much less liability to its attack in those who have previously suffered from it; and in not a few, it observes the law which obtains among many of the exanthemata, of securing an immunity from a second attack in the same individual; and we have met with many cases of serious organic affections, the development of which could be distinctly traced to a severe attack of psora. Of the remaining cases, eleven were affections of the chest, of which two proved fatal within the quarter; three were fractures, one dislocation, one paralysis, one aneurism, one syphilis, and one rheumatism.

Case of Aneurism.—The case of aneurism was in the person of an aged quarter-gunner, who, from his long and useful services, had strong claims upon our careful attentions, but who proved a most ungovernable and unmanageable patient. He was fifty-five years of age, and for twelve months previous to his admission, had suffered much from violent palpitations of the heart, and recently, a tumor had made its appearance beneath the left clavicle, which pulsated strongly. In the umbilical region, there was also a very perceptible enlargement, which not only pulsated strongly when pressed upon in a line with the artery, but communicated the same throbbing sensation when elevated from the spine by lateral pressure, which, as the patient was much emaciated, could be easily effected; and it was from this abdominal tumor that he suffered most inconvenience. His only complaint was from the "*thumping amidship*," as he expressed it. Having witnessed the most happy results from the strict enforcement of the treatment of Valsalva among the native Minorcans, we were desirous of pursuing the same course in this case; and for many days, and even weeks, when closely watched, he confined himself to his bed, taking no other food than the most mild and unirritating diet, while Withering's infusion of digitalis was administered to the fullest extent that his system would allow. Under this course he was much improved, which promised at least to prolong his life, and pass it comparatively without pain; but, in the midst of this nursing, he would at midnight leave his bed, scale the walls, and without his clothing rush to the first grogshop. Here he would drink, quarrel and fight, as long as he was able to stand; and when overcome by his exertions, he would be brought back to the hospital, to undergo another course of arrow-root and digitalis. When intoxicated, his exertions were powerful, and it was frequently necessary to resort to the use of the strait-jacket, during his *furor;* and at these times, the action of the heart and throbbing in the aneurismal tumors were so violent, as to occasion great apprehension of an immediate rupture. In this situation, it was necessary to bleed him freely; and such was the condition of his fluids, that the blood contained but little coloring matter, and from the scarification, after the use of cups, serum would continue to flow until arrested by a compress. This course continued for many months, until his final return to the United States. We were equally astonished at the great strength manifested by him when under the influence of liquor, and that the case did not prove fatal during some one of his excesses. After each debauch, when perhaps scarcely able to raise his head, he would say that he felt much better; and if we would only give him a little more rum, he would be sure to get well. Had our patient joined the "tee-totallers," it would have been of more service to him than all our medicine and advice.

Very many cases are brought to the hospital occurring among the seamen when on shore, during their liberty; and these cases are often severe injuries, received in their quarrels with one another, or with the Spaniards on shore. In the latter case, the injuries are often of a very serious character. Unacquainted with the use of the fist, the Spaniards, in these encounters, fly in every direction from before the sailor; but, carefully storing up this defeat, and never permitting an opportunity of revenge to pass by, they clandestinely put a knife into the back of poor Jack, who is equally ignorant of their mode of fighting. Two of the cases of fracture admitted, occurred on shore, one of them being a fracture of the lower jaw, from a blow with a stone, causing much injury to the soft parts; and it was only after some months of much suffering, during which it was found necessary to extract two of the molar teeth, that the patient recovered. Very many are brought to the hospital in an extreme state of intoxication and delirium tremens,—a disease which is encountered in naval practice, to an extent unknown in private life. Nowhere in life, can so great a change be seen in the condition of men, as in the crew of a ship of war mustered on the quarter deck to receive permission for liberty on shore, and the appearance of the same men twenty-four or forty-eight hours after. In the former case, they are all ruddy, hardy, happy chaps, in their neat sailor's dress, with ribands flying, and their pockets filled with more money than they can properly spend during their short run on shore. In this state they land for the purpose of having "a good jolly drunk." At the termination of the leave, which never exceeds forty-eight hours, they are gathered together by the officers, often without hats, jackets, or shoes; their eyes blackened, and the few clothes on them in strips and tatters; and it is often necessary to hoist them on board in the same way as a portion of a ship's cargo.

We rejoice to have it in our power to say, that nowhere has the temperance cause done so much good as among seamen. Every inducement is, indeed, held out by giving to the temperate a portion of each month's wages and frequent liberty. By holding out this inducement to all who will abstain from drink, and by this alone, may the whole character of the seaman be revolutionized. After the liberty of a crew of five hundred men, the surgeon will have more cases of delirium tremens under his care than would be encountered for a long period in private practice; but the disease is very easily treated among seamen, as we are always able to prevent a further indulgence, which so frequently thwarts the best directed efforts in private practice. During our experience of more than twelve years in the navy, but a single fatal case from this disease has come under our observation, and in that instance it was associated with hæmoptysis. The remedies these cases are emetics and opium, and when there is much arterial excitement, venesection. The first two, however, are the means upon which we chiefly rely. The use of emetics in this disease is more loudly called for among seamen than in any other class of persons; for, no sooner do they reach the shore than they commence eating and drinking the richest food and the worst of fruits and drinks that come in their way, until their stomachs are filled to repletion. In this condition, fluids alone can find entrance, and care is taken to renew the supplies so long as they are able to keep on their feet; and in this state of insensibility, they are brought to us for treatment. Here, a dose of ipecacuanha will be of more importance than any other remedy; and he will disgorge a mess sufficient to be a surfeit for any man. No sooner is he relieved from his burden, than sensibility and motion are restored; he opens his eyes in a furious, wild delirium, with the "horrors," and calls for something to drink. In this stage, a glass of hot toddy, with twenty-five drops of tr. opii, will seldom fail to tranquillize him; and a few doses more will induce a sound sleep, from which he will awake ready for another cruize either at sea or on shore. When this treatment does not succeed, and there is much delirium with a full pulse, venesection should be resorted to. After this, the administration of opium and asafœtida, in large doses, will be sure to tranquillize the nervous system, and procure a profound sleep, which last is, in all cases, the best restorer of exhausted nature.

During the quarter, seventy-one were returned on board ship for duty, three died, and two were discharged the service at their own request. Thus thirty-nine were left under treatment on the 1st of January, 1840, of whom five were officers; and these last had their quarters in private dwellings, as the hospital had been too much crowded, during the quarter, to allow them the necessary comforts.

For the first quarter of 1840, thirty-seven were admitted. Of these, eighteen had affections of the chest, among whom were several young men, who had the most copious hæmoptysis, without having suffered from any premonitory symptoms, indicative of disease of the lungs. In one case, a young man brought on shore as an attendant upon the sick, was seized with the most violent hæmorrhage, which assumed a periodical form, returning daily for a fortnight, followed by hectic fever and the suppuration of vomicæ, and within six weeks of the attack, the case terminated fatally. On post-mortem examination, tubercles were revealed throughout the whole pulmonary tissue.

At this season of the year much rain falls, particularly at night, when it descends in torrents; the prevailing north-west winds are cold and disagreeable; and although the thermometer seldom falls as low as 48°, yet the cold is much more unpleasant, and we suffer more from it, than when the thermometer is at the freezing point in the United States.

The records of the squadron prove that, notwithstanding the lauded salubrity of the Mediterranean and the advantages to be derived from it by the pulmonary invalid, this island, at least, possesses none of these immunities. On the contrary, all who were predisposed to pulmonary disease, or were of a tubercular diathesis, were sure to have the latent disease developed; and the only deaths which, up to this period, had occurred at the hospital, with two exceptions, were from phthisis. Seven of the patients received were cases of rheumatism, two of fracture, two of scrofula (one of which was accompanied with an inflammation of the knee joint, which terminated in anchylosis), one of nyctalopia (which continued to resist all treatment until the patient's departure for the United States), and one of hepatitis. The remaining five were not such as to require particular notice.

Abscess of the Liver.—The case of hepatitis was the consequence of an attack of fever on the coast of Africa, which was followed by great derangement of the hepatic functions; the skin had remained dry, parched and yellow, with much gastric disturbance. With the approach of cold weather, hepatitis set in, the right hypochondriac region being much enlarged and very painful, without the ability to bear the slightest pressure. After the inflammatory stage passed by, rigors, loss of sensibility over the inflamed part, with great prostration and discoloration, indicated the occurrence of suppuration in the liver; and in this stage of the case, we contemplated making an incision into the abscess, as fluctuation could be detected by a careful examination; but we were deterred from the operation by the great prostration and unfavorable condition of the patient. The pulse was quick, tense and frequent, with coldness of the surface and of the extremities, attended with copious serous alvine evacuations. After remaining in this condition for several days, the hepatic abscess burst through the right lung during a fit of coughing, and discharged an immense quantity of bloody pus. His strength was now supported by nutritious diet and drinks, by means of which his life was prolonged until the tenth day after the bursting of the abscess. Upon examination, it was found that the entire liver had been much enlarged; the right lobe formed an immense abscess, which had suppurated by an irregular opening through the diaphragm into the lung; and the entire convex surface of the liver was firmly united to the parietes of the abdomen. Had an artificial opening been made, or had the ulceration been external, there could have been no effusion into the abdominal cavity in consequence of this adhesion; and notwithstanding the almost positive certainty of death, we regretted having not plunged a scalpel into the abscess, as that was the only possibility of saving life. In such cases, a desperate and energetic effort is the only means left for the exercise of humanity. The other viscera of the abdomen were in a comparatively healthy state, notwithstanding being almost in contact with the extensively diseased liver.

A case of *secondary syphilis*, in a petty officer, which had for more than a twelvemonth resisted every method of treatment, came under our care. The mercurial and anti-mercurial methods of treatment had each been tried, without any benefit; and in this state, with extensive ulcerations in the fauces, venereal eruptions, with a slow and gradual progression of the disease, we resolved upon the course of fumigations recommended by Mr. Abernethy. Frictions with the mercurial ointment and the internal administration of the protiodide of mercury had been practised, but without any favorable results. One pound of the protochloride of hydrargyrum was washed with a diluted mixture of ammonia, and the precipitate dried; and with this he was carefully fumigated each alternate day, for twenty days. After each fumigation, the whole surface was covered with the impalpable powder of the oxide of mercury, and the same clothes were worn throughout next the skin. This course was followed by much febrile excitement, loss of sleep and appetite, with nervous tremors throughout the whole system, indicating the action of the metal, without any of the specific effects in producing salivation; and, at the same time, the ulcers in the throat, as well as the eruption, assumed a more aggravated and unhealthy aspect. The mercurial fumigations were of course discontinued, the patient confined to a warm room, and the decoction of sarsaparilla ordered. Guaiacum in large doses was afterwards administered, which, with low diet and care, after a lapse of three months, finally conquered this obstinate case.

The remaining cases did not present any remarkable feature, notwithstanding many of them were of the most serious character. In these last, our only efforts could be directed toward relieving the most urgent symptoms, and rendering the remainder of the patient's life comfortable. This duty can, in truth, always be performed with pleasure, if the subject is an old sailor, who has faithfully served his country,—one who, from the nature of his calling, is a wanderer upon the wide world, without friends or home,—and who, whatever may be his failings, is never ungrateful for services rendered when prostrated by disease.

The total number under treatment, for the last three months, was seventy-six. Of these, forty-one were returned to duty cured, and two died, leaving in the hospital, on the 31st of March, thirty-three still under treatment. Of these last, a majority were incurable cases, and were designated as such in the quarterly report to the commander of the forces.

On the 12th April, a survey was held upon the patients in the hospital, and twenty-two cases were pronounced proper subjects to be sent to the United States as invalids. They were accordingly embarked in a store-ship, on the 18th of April, under charge of the Surgeon of the Fleet, Dr. Ticknor, the present able surgeon of the naval hospital at New York, to whom on this occasion we would express our kind acknowledgments, as well as to his successor, Surgeon Thos. Williamson, whose reputation in the service is too well established to require anything to be said in this place. Of the twenty-two invalids sent home, seven had affections of the chest, three rheumatism, two stricture, one aneurism, one nyctalopia, one anchylosis of the knee-joint, one insanity, and the remainder came under the class of general impaired health and advanced age. This number included two officers. Since the 1st of the month, one had died and five were returned to duty, leaving, after the departure of the incurables, but five patients which were considered cases that would yield to the treatment and comforts of the hospital.

Nearly one year had elapsed since our arrival at Mahon; and throughout this period we had suffered much from intermittent fever, brought on, in the first instance, by exposure to an intensely hot sun, during an excursion into the interior of the Island immediately after our arrival. These paroxysms were easily checked by quinine; but, upon the slightest exposure, they were sure to return. It was, therefore, with much pleasure, that we embraced an opportunity which offered, to cruise at sea during the summer months, which were passed in the Adriatic and Archipelago.

The hospital, in the mean time, was in charge of Assistant Surgeon Sinclair; and upon our return to Mahon, on the 5th of November, from the coast of Asia Minor, it was found that there had been nine admitted during our absence. Five had been returned to duty cured, one having been operated upon for hydrocele, and one had died from phthisis, leaving, at the time of our resuming the charge of the hospital, eight patients under treatment. After the usual quarantine, we received twenty-one into the hospital, all of whom had been cruising to the East; eight of them having passed the summer on the coasts of Syria and Egypt, at that time the seat of war. Eleven of these cases were affections of the stomach and bowels, five of the chest, two were cases of fever, one of ophthalmia, and two of injuries. One of the sick who was advanced in years, and was in bad health at the time of his arrival on the station, died on the eleventh day of his admission into the hospital, of disease of the lungs.

Case of Tetanus.—One of those admitted in consequence of an injury was a carpenter's mate, who had a nail run into his foot eight weeks before coming to the hospital. Symptoms of tetanus followed the accident, for which the incision had been freely enlarged and cauterized, and the usual remedies administered with only temporary relief. His case terminated in chronic tetanus, the only instance of that disease which has ever fallen under our observation. The patient was twenty-six years of age, temperate in his habits, and at the time of the accident in good health. The only relief he had heretofore obtained was from the use of large quantities of opium, to the extent of a complete saturation of the system, but as soon as the operation of the narcotic would subside the spasms invariably returned. The treatment was commenced at the hospital, by again freely laying open the puncture in the sole of the foot, and dividing the nerves in the vicinity. The base of the wound was then covered with the nitras argenti, and suppuration encouraged by cataplasms. This operation, which was attended with much pain, was followed by a copious suppuration, which was carefully kept up; and the part, at the same time, was washed with a syringe, in the hope that it would bring away any particles of metal which might remain, causing the irritation. After several weeks, the wound healed, forming apparently a sound and healthy cicatrix, but the tetanic symptoms remained with their usual severity. Spasms occurred almost daily, inducing violent opisthotonos, the muscles of the jaw being at the same time affected. During the intermission from spasm, the patient was enabled to sit up. His general health became very good, suffering only from constipation produced by the large quantities of opium which he was in the habit of taking. From the habitual use of this narcotic, his system gradually lost the susceptibility to its influence; and hence the lactucarium and stramonium were from time to time substituted. A mercurial course was determined upon; and being profusely salivated, the spasms became much less violent, and of less frequent occurrence, but upon the subsidence of the ptyalism they again returned with their former severity. Three months after his admission into the hospital, his foot was without pain or swelling, and his general health had much improved, but there was still, at intervals of two or three days, a regular recurrence of the pain and spasms. Epispastics were applied over the spinal column, and as soon as healed were renewed, but no relief followed. Iron, bark, and quinine had also been prescribed with the same want of success. Eight months after the injury, he was returned as an invalid to the United States, and here he arrived after a long and boisterous passage, almost worn down by his protracted and intense sufferings.

Small Pox.—One of the officers, admitted this quarter, had an eruption on the face, which had suddenly made its appearance. Two days after his admission it proved to be variola, and within a few days two other cases in the hospital were developed. In consequence of this, the hospital, which is situated in the town, was immediately placed in quarantine. Health officers were ordered to guard it, and intercourse with the inmates was strictly prohibited. These cases from the hospital were sent to the quarantine buildings, at the entrance of the harbor, and placed in charge of Passed Assistant Surgeon Malcolm Smith. The number of cases within a few days increased to eleven, all from the frigate Brandywine, which had recently arrived from Lisbon. In three of these cases, the eruption was copious, but distinct, and the remaining cases assumed the form of varioloid, which in several amounted to little more than a mild eruptive fever. In five weeks, pratique was granted to all, no other cases having made their appearance in the other vessels of the squadron.

During the past summer, while the Ohio was in the harbor of Toulon, with a complement of more than nine hundred men, a case of small pox made its appearance in a man, who had not been on shore for some weeks. He was immediately removed to the civil hospital, on shore; and here he recovered, after having had the disease severely. Strange to say, this was the only case which presented itself among this large number of men confined to the same ship. Small pox may be said always to prevail on the shores of the Mediterranean, but it is usually so mild as to require but little treatment. In Toulon, where it is almost at all times to be found in the fleet, quarantine is not enforced for this disease, while elsewhere, even in our own country, ships are not allowed pratique so long as it is found on board.

Extensive wound of the lung.—A young man from the Ohio, a servant of Lieutenant Ganzevoort, was admitted with a wound of the right lung from a blow with a Spanish knife. He was carrying a bundle in one of the most public parts of the town, when a Spanish soldier stole upon him from behind, and with one blow plunged a knife into the upper and posterior portion of the right lung. The weapon passed over the edge of the scapula, entering the thorax between the first and second ribs. He ran to the first door, holding on to his bundle, and fell senseless. We reached him soon after the receipt of the wound, and found him expectorating large quantities of blood, the internal hæmorrhage being very profuse, indicating that the large blood-vessels at the upper part of the lung had been divided. Our first object was to induce syncope, which was readily effected by opening the wound and allowing the blood to flow freely from it. The *deliquium animi* being complete, there followed for the time an arrest of the hæmorrhage, and we now contused the arterial branches within reach by torsion and compression. The intercostal artery was not divided, but judging from the copious hæmorrhage, the knife must have penetrated deep into the substance of the lung. The edges of the wound were brought into apposition by a deep interrupted suture, and the application of a compress and bandage. The patient was ordered to be kept perfectly quiet, and not even permitted to speak, and two grains of the acetate of lead were ordered every two hours, with directions to increase the quantity should there be a return of the hæmorrhage. The loss of blood had been very great, and the patient was almost completely exhausted in consequence of it; and this for the time was the only means by which the internal bleeding could be arrested. On the following morning he was found tranquil, not having had a return of the hæmorrhage. Upon auscultation, it was found that the function of the right lung, in consequence of the internal effusion of blood, had been almost entirely suspended, respiration being carried on by the lung of the opposite side. An enema was ordered, which had the desired effect; the acetate of lead was still continued, but at greater intervals; and cooling acidulated drinks were given in small quantities.

The following notes of the case were taken at the time:

Third day. There is some expectoration of blood during the night; he complains of pain and soreness in the right chest; but the external wound is healing by the first intention. Seidlitz powders ordered every two hours, until the bowels shall be moved, also an infusion of sem. lini, acidulated, for a common drink, with perfect rest.

It may be here remarked that, a short time prior to the admission of this case, our attention had been directed to an article in the Medico-Chirurgical Review, upon the advantages of high temperature after injuries and important surgical operations; and we determined to give this method of treatment a fair trial in this case of wounded lung, in which the influence of temperature might be supposed to be of much importance. The temperature of the apartment was consequently at all times kept as high as the patient could endure it without inconvenience, and in so doing we had no reference to the thermometer, which, for the three weeks immediately succeeding the accident, never fell below seventy degrees, and usually stood near seventy-six. To this high temperature we attribute, in a great degree, the recovery of this patient from a most formidable wound; and the efficacy of this treatment we have since had ample opportunity of testing in various cases. Indeed, no means with which we are acquainted promotes union so rapidly in lesions of all the tissues, including even fractures of the large bones, as a high temperature; and we should be happy were the favorable opinion here expressed to call the attention of the profession to its importance. The only point to be guarded against is never to carry the heated atmosphere to the extent of producing oppression or exciting the patient; and as the natural heat of the body, preserved by clothing, is not sufficient to effect the object in view, it must be done by the high temperature of the atmosphere which surrounds the patient.

Fifth day. The surface of the wound has completely united, but there is evidence of incipient emphysema; the subjacent parts are elevated and puffed, the lower costa of the scapula projects, and there is daily an expectoration of blood, which gradually diminishes in quantity. On the removal of the suture, the newly cicatrized wound opened readily, allowing a quantity of air and serum to make their escape. As the bowels are constipated, in consequence of the free use of the acetate of lead, ol. ricini ℥j. was ordered, which operated freely.

Seventh day. The patient is much more comfortable, which has been the case ever since the wound commenced discharging. There is a constant oozing of serum mixed with small bubbles of air; the tumefaction under the scapula is much reduced; the right side and shoulder are much discolored from ecchymosis; respiration has become more natural, and is unaccompanied with pain.

Tenth day. This morning there is a slight return of hæmorrhage from the lungs; ordered the acetate of lead to be resumed, and an enema to be administered.

Fourteenth day. The discharge of serum and air from the wound has daily diminished in quantity; the respiration has become easy, the patient being now able to breathe in the horizontal position, having been heretofore obliged to remain with his chest almost erect; a more nutritious diet allowed.

Nineteenth day. The wound has again united; free expectoration; respiration is daily improving, in proportion to the absorption of the effused blood. Eight weeks after the receipt of the wound, the patient was returned to duty on board ship.

Recovery from gun-shot and even incised wounds of the lower lobe of the lungs is of frequent occurrence, but from such an injury of the upper lobe, death usually follows. The happy termination of this case, we must attribute to the syncope from the loss of blood, immediately after the injury was received, and perhaps to the beneficial effects of the high temperature preserved throughout the treatment.

It is scarcely necessary to add, that the soldier who perpetrated this outrage escaped, for these troops have been completely demoralized by the seven years civil war in Spain. Had the assassin even been arrested in the act, the governor, himself a soldier of fortune, would not have had sufficient firmness to punish him; for, should he have done so, his own life would have been forfeited to the troops by whom he was surrounded.

At the end of the last quarter for 1840, twenty-four patients were under treatment in the hospital. Of these, five were cases of injuries, nine of affections of the chest, and five of the stomach and bowels. Fifteen had been returned to duty cured, one died, and two were discharged the service at their own request.

From the first of January, 1841, until the thirteenth of March, twenty-seven were admitted, including eleven cases of psora in boys. Seven of the patients labored under pulmonary affections, two had disease of the intestinal canal, two had rheumatism, and three were cases of fractures. Two of the cases last mentioned are particularly worthy of notice.

Cases of Comminuted Fracture.—One of them, a marine, when intoxicated on shore, was knocked down by a party of Spanish soldiers, and while down, with his arms resting on the stone flagging, a large rock, weighing nearly one hundred pounds, was thrown upon his elbow, producing a comminuted fracture and a dislocation of the condyles of the humerus, both the ulna and radius being fractured. As his arm was large and muscular, the inflammation and swelling which immediately followed the injury, rendered it difficult to ascertain the precise situation of the comminuted fragments of the shattered bones; but these being adjusted as near as possible to their proper position, the injured joint was covered with leeches. After several days' rest, during which time the inflammation was reduced, it was determined, upon consultation with the surgeon of the fleet, that the limb should be kept extended, as that position brought the fractured olecranon and other fragments nearest their natural state. Although attempts were made to move the joint as soon as it could be done with safety, yet anchylosis could not be prevented.

The other case occurred in the person of a seaman, who had been on shore on liberty. Having been taken in charge by an officer, who was endeavoring to bring him on board, he threw himself over a precipice nearly forty feet in height, the officer himself narrowly escaping being carried with him. Fortunately he landed on a tiled roof beneath, which, giving way, broke the force of the fall, or he would doubtless have been instantly killed. He was conveyed to the hospital; and here, upon examination, it was discovered that the left tibia was fractured near the ancle-joint, and also two of the ribs on the right side, as well as the clavicle. The body generally was much bruised; and in addition to these ills, he was laboring under delirium tremens. The fractured leg was placed in Desault's apparatus, and tied down to the cot. Venesection ℥xvj. and tinct. opii et assafœtidæ were ordered. During the first twenty-four hours after his admission, he suffered greatly from delirium, and much force was necessary to prevent his moving the fractured bones; but after that, he became more tranquil, which was followed by a sound sleep; and thus we were enabled to direct our attention to a more perfect adjustment of the fractures. On the fourth day he was placed upon the fracture cot, which we invariably use in all cases of fracture of the lower extremities, both at sea and in hospital practice; but it is for the treatment of fractures on board ship that we were led first to construct it; and for this it is peculiarly adapted. Bandages and compress were applied to keep the ribs and clavicle in their proper position; and this was readily accomplished, as the patient was necessarily confined to the horizontal position. No apparatus can, indeed, so well adjust the fractured extremities of a broken clavicle as the method here pursued; and from this time, until the entire recovery of the patient, not a single unfavorable symptom was presented, notwithstanding the existence of four fractured bones, and the extensive injuries in other parts of the body.

Treatment of Fractures at Sea. This constitutes one of the most critical, as well as one of the most frequent duties of the naval surgeon; and almost every one who has had the treatment of such cases on board ship, has doubtless had the painful and disagreeable duty devolve upon him, to readjust the fracture,—an event that no care on his part or that of his patient can prevent. Not unfrequently, after the greatest vigilance and care, the naval surgeon has the mortification to find that the cure is not so perfect as it should be; and these *opprobria medicorum* of the naval surgeon are often brought up in judgment against him, by those who know but little of the countless difficulties encountered in the treatment of fractures at sea, especially in gales of wind, when those with sound limbs are unable to keep their feet, and the knees and timbers of the good ship herself are groaning and tearing asunder, as she sports about on the mighty waves. We have witnessed cases of deformity which had been treated by surgeons, whose eminence and reputation are a sufficient guarantee that everything had been done which judicious and careful attentions could effect toward preventing these unfortunate results. In a case, therefore, of so much difficulty, and one of such frequent occurrence, it is with no ordinary pleasure that we are enabled to recommend to the profession, as well as to all those " who go down upon the sea in ships," a fracture cot, which will effectually guard against all accidents from displacement. This apparatus, as represented in the lithograph facing the title-page, must, from its many advantages, and especially its simplicity, recommend itself to the profession. We are gratified in being able to add that such of our naval surgeons as have seen it in use, give it their highest approbation; and moreover, that it has met with the warm approval of several of the most experienced surgeons in the British and French service, by whom, when the apparatus was in use, it was carefully examined.

The apparatus consists of an ordinary ship's cot, eight feet long and three feet six inches wide, without sides. On the centre of this cot, the matrass and bedding of the ordinary size are to be made up, excepting the sheets and pillows; the head of the matrass is to be kept near to the head of the cot; and thus will be left a space of two feet between the lower end of the matrass and the foot of the cot. Over this, a large cot-frame or stretcher, also eight feet by three feet six inches, is to be suspended, by means of a tackle, as is seen in the plate. The canvas covering this frame is to have a hole, three feet and a half from its head, for the use of a bed pan; and on this frame the sheets and pillows are to be placed. Upon this moveable stretcher the patient remains throughout the treatment.

As this frame can be elevated or depressed at pleasure, every necessity can be attended to without the least motion on the part of the patient. The cot may be daily removed, aired, or changed, which is so frequently necessary in warm climates; and thus can cleanliness be more perfectly preserved than by any other method; while the fracture is at no time disturbed. When lowered down, the matrass beneath, upon which the patient rests, should always be within the frame of the stretcher; and this, by the way, is the only point necessary to guard against in the use of the cot; but its whole construction is so simple, that every forecastle-man will be able to make one.

Fractures at sea are displaced in consequence of the limb or splint coming in contact with the sides, or end of the cot, during the pitching or rolling of the ship, or in moving the patient while using the bed pan. This fracture cot, however, is without sides, and the end is never touched; a slight pull upon the tackle will elevate the patient without any effort on his own part, at the same time that the whole body moves together; and, whether he is resting in the cot upon the matrass, or is suspended over it upon the stretcher, he always moves free in space, with the motion of the ship, without any occasion for muscular exertion. Our limits will not permit our going farther into the merits of this invention, but its simplicity and usefulness will always be its best recommendation. Indeed, a fracture cot of this description should at all times be in readiness on board our ships of war, and on our excellent and incomparable European packets.

DESCRIPTION OF THE FRACTURE-COT.

aa Cot, eight feet long, and three feet six inches wide, without sides.
bb Matrass of the usual size—the head to be kept within six inches of the head of the cot, while a space of two feet is allowed below.
cc Life lines at the side of the cot.
dd A cot frame, or stretcher, covered with canvass, eight feet long, and three feet six inches wide, on which the sheet and pillows are to be placed.
e Hole for bed pan.

This frame is to be suspended over the cot, as seen in the plate, by a tackle; and during the treatment it is to rest upon the matrass, and is never to be raised except as occasion may require.

From the commencement of the quarter up to the 13th of March, twenty-four were returned on board ship, for duty. One had died, and two were discharged the service agreeably to their own request, leaving twenty-two under treatment on the day that we were detached from duty at the hospital, and ordered for service on board the United States' frigate Brandywine, Captain W. Compton Bolton.

During the time that the hospital was under our charge, the total number of admissions amounted to two hundred and nine. Of these, one hundred and forty-one were discharged cured, six were discharged at their own request, twenty-nine returned as invalids to the United States, and eleven died. Of the deaths, eight were from pulmonary affections,—a disease to which the records of the ships of the squadron are by no means favorable, notwithstanding the mildness of the climate and the reputed salubrity of the atmosphere of the Mediterranean. But it must be remembered, that the exposure to all weather on board ship, the wet decks, and the peculiar thoughtlessness of seamen, and perhaps their mode of life, would contribute to produce this disease to a much greater degree than in those who reside on shore. We are satisfied, however, that in no part of the world in which we have served, have we encountered so many cases of phthisis as among the Mahonese, —a result that admits of ready explanation in view of the endemic influence of the depressing passions, so universally excited into action through the governmental causes already detailed. Of the fatal cases at the hospital, the majority occurred in individuals who arrived on the station in comparative health, and in these, the progress of the disease was rapid. Among this number, were Assistant Surgeons Magil and Harrison, who, both educated at the University of Virginia, and both citizens of that State, were cut off by this disease at the very threshold of the most promising and useful career. One case of tracheal phthisis,—the purser of the Brandywine,—was much improved by the climate of the Mediterranean. Although his voice was at one time almost lost, accompanied with general atrophy, and, in a word, the presence of some of the most unfavorable symptoms; yet with care, and passing much of his time in Italy, the atmosphere of which is more genial, he improved far beyond the expectation of his friends, and returned to the United States almost completely restored. This case then affords positive evidence that, at least in Italy, the pulmonary invalid, even in cases apparently the worst, may reasonably expect some relief.

The number of cases treated in this hospital, bear but a small proportion to those of many other similar civil and military institutions; but upon examination, it will be found that the general character of the cases is totally different. While in hospital practice, generally, the mass of admissions present cases of an ordinary nature, here almost every case exhibited highly important features. These patients were all in apparent good health when joining their respective ships, and the cases had generally been under the care of able and experienced surgeons on board ship; and it was only in cases of an aggravated character, and often hopeless condition, that the patients were transferred on shore to enjoy the quiet and comforts which could not be obtained on board. Many cases possessed much interest from being the result of change of climate; and invalids arriving at the hospital presented opposite characters of disease, which do not occur in private practice. Two ships, arriving on the same day, one from the European shores, will have her invalids suffering from inflammatory affections and diseases of the respiratory organs; while the other, from the coast of Egypt or Syria, will have malignant dysentery and fever. In addition to these labors, the duties of the naval surgeon are materially augmented in consequence of the proverbially careless and reckless character of seamen. A majority of the cases which terminated fatally were in a hopeless condition at the time of reaching the hospital, and as all hopes of recovery were consequently idle, the efforts of the surgeon were limited to soothing their last moments,—to bestowing such attentions as we shall all ultimately require from each other, in the downward passage to the grave.

Art. II.—*Complicated Menstruation, as illustrated in two cases.* By W. Detmold, M. D., of New York.

Case I.—The following case represents features as interesting in a physiological point of view, as they are perhaps of rare occurrence. I therefore do not hesitate to give it publicity, though I have myself only for a short period been an observer and eye-witness of the course of the disease. The medical attendants were changed several times during the illness of the patient, and having been myself called in consultation only in the latter part of it, I have been obliged to rely for the history of the case, previously to my seeing it, on the statement of the patient and her family, and of the physicians whom I found in attendance at the time. The case, however, has been seen by a large number of professional men of the highest standing in this city, and I myself had an opportunity of showing the patient to several medical men from other parts of the country, so that as regards the correctness and truth of the history of the main and most interesting features of the case (and to those I shall limit myself here) there cannot be any doubt. As the repeated change of the medical attendants, and my only temporary observation of the case, make it impossible for me to give an exact account of the medical treatment followed during the different stages of the disease, and as I, besides, consider the case less interesting in a therapeutic point of view than in a pathological and physiological, I shall omit here the treatment entirely.

Miss R., of this city, of dark hair and complexion, had, with the exception of the ordinary diseases of childhood, always enjoyed good health, and she was apparently of a robust constitution. When fourteen years of age, her menses first appeared, without any disturbance in her general health ; and after that time she regularly menstruated for about one year. On the 17th of April, 1842, during one of the menstrual periods, she had, at the same time, (according to her own and her family's statement), a bilious attack, with a severe sore throat. She had leeches applied to the throat, and was bled in the arm. Her menstruation stopped during the night succeeding the venesection, and the following morning, the patient had lost the use of her left leg, which became very painful, and began to swell from the hips down to the toes. Simultaneously with the swelling of the leg, a singular symptom appeared. *The whole surface of the body became covered with black hair*, so that the arms, legs, and chest of the young lady looked more like those of a hairy man of forty, while the upper lip and cheeks were covered with a delicate dark down, as we see sometimes in young men approaching the period of puberty.

I saw the patient about three months after the commencement of the disease which then had just passed its acmé, and found her in the following condition. Her whole body was very much emaciated, and her countenance bore an expression of suffering, which was increased to the highest degree by the mere approach of any person to the pillows on which her leg rested. On her upper lip and cheeks was the above mentioned down, and her chest, arms, and legs, were hairy as just described. The hair showed, however, much more on the sound leg than on the diseased one, for as the sound leg was emaciated almost to bone and skin, the hair on it appeared much more dense than on the other leg, the skin of which was in the highest degree of tension from the enormous swelling. The circumference around the knee was twenty-two inches, and the thigh and leg were swollen in proportion. The skin was neither changed in temperature nor color; the swelling was neither phlegmonous nor œdematous ; to the touch it was solid, and felt like a plastic deposit ; it resembled hypertrophia, and the whole limb presented somewhat the appearance of phlegmasia alba. Outside and above the knee was a superficial and limited fluctuation, which, on being opened, discharged for several days a moderate quantity of healthy-looking pus ; and a similar fluctuation appeared a few weeks after directly over the patella. Both these abscesses were, however, in no proportion whatsoever to the size of the leg, and they seemed altogether secondary, that is, not connected with the *causa proxima* of the disease, but rather consecutive upon the enormous swelling. The patient suffered intense pain from the slightest attempt at moving the limb, over which she herself had no control at all. She had two large ulcers from decubitus over the os sacrum, and the pulse was about one hundred and eight in a minute, having been a few days previously as high as one hundred and twenty. Her appetite was good, and altogether the disease, as already stated, seemed to have passed its acmé; for the patient began gradually to improve, the pulse became daily less frequent, the swelling of the leg diminished by slow degrees, the limb became daily less painful, the ulcers on the back healed up, and about four months and a half after she was first taken ill, she began to move about upon crutches. The unnatural growth of hair upon her body and limbs gradually disappeared, and about six months from the commencement of the disease, the menses made their reappearance. From that time she continued to improve steadily, and she is now, in June, 1843, a fine hearty-looking woman, with no remains of her extraordinary illness, except a false anchylosis of the knee-joint, evidently caused by plastic deposit in the soft parts and ligamentous apparatus around the joint. Otherwise she has the full use of her limbs, with the exception that after much exercise she has a feeling of fatigue in that leg, and it becomes slightly œdematous.

I have thus given only, as I premised in the beginning, an outline of the characteristic features of the case, without entering into the minutes of the daily changes even at the period when I had the opportunity of doing so; and I will now, in conclusion, only state that the application of ice to the swollen limb seemed to have been the most beneficial remedial agent resorted to. I also abstain from commenting on the physiology and pathology of the case, which seem, as far as the growth of the hair is concerned, a mistake of nature in anticipating the period when menstruation ceases naturally.

Case II.—As I have given the above case mainly on account of its pathological and physiological interest, without reference to therapeutics, I do not deem it out of place to add the following case, of which the principal interest lies perhaps in the therapeutical treatment pursued.

Mrs ——, of this city, of lymphatic temperament, had, until her marriage, which occurred when she was very young, regularly menstruated. She has now been married about eight years. Soon after her marriage, her menstrual functions became deranged, the pain at each period being so excessive that she had invariably to keep her bed for about a week. The pain and uterine spasms were at times so violent as to produce convulsions; and, withal, she never lost more than a few drops of blood during the first few hours of each menstrual period. She had never, during the eight years of her matrimony, been pregnant. She had been under the care of several medical men, and she had at different times been put under the influence of various remedies, as well for momentary relief during the paroxysms of her menstrual spasms as in the interim for a radical cure. It was all, however, to no good effect, for she only obtained temporary relief from copious venesections which were repeated every few months.

In August, 1842, she applied to me for relief. Besides her regular attacks of illness, every four weeks, she complained of a continual feeling of soreness above the os pubis, which was much increased after intercourse with her husband. I proposed, and she submitted, for the first time, to an examination per vaginam. The collum uteri felt rather large and soft; and when the speculum was introduced, the labia of the os tincæ showed a dark purple color. I repeated the examination at her next menstrual evacuation, and found the same appearance as before, only stronger marked, showing evidently a high degree of venous congestion. I advised the immediate application of six leeches to the os tincæ. The after bleeding was very copious, so much so that her husband became alarmed during the night, and sent for me to stop it; but, as I found it not excessive, I allowed it to continue for several days. I did not ascertain whether the blood flowed from the leech bites or from the interior of the uterus. The patient, however, had neither pain nor spasms of any kind, during the menstrual period, being the first time in about eight years. I ordered the application of the leeches to be repeated every month, upon the first warning of the approaching menstruation, and each time with the same beneficial result. Besides, I ordered, during the intervening time, injections of cold water per vaginam, and advised abstaining from intercourse with her husband. At the same time, I prescribed a simple and healthy diet, with exercise in the open air; and as the patient was evidently doing well under this treatment, I did not deem any medicine necessary except keeping her bowels regular with small doses of rad. rhei. This course of treatment was carried on for about five months, the leeches having been applied four times, when, as the soreness over the os pubis had long since entirely disappeared, the patient did not deem it necessary to have them applied a fifth time; and the result was, to her great surprise and delight, a regular menstruation, without the least pain, a sufficient quantity of blood being lost without the leeches. At her next term, she had again a regular menstrual evacuation, and immediately after that, she must have conceived, for she began to complain of sickness at the stomach in the morning, exhibiting, in a word, all the usual symptoms of the early stage of pregnancy. Her menses now stopped for three months without any disturbance in her general health; but, unfortunately, a few weeks ago, in consequence of imprudence in taking a great deal of exercise, and a long ride in a jolting stage, she had a miscarriage, discharging a perfectly normal and well developed ovum. Since then, she has had a regular and sufficiently abundant menstrual evacuation.

Art. III.—*Observations on some of the more Obscure and Remote Effects of Syphilis.*—By John Watson, M. D., Surgeon to the New York Hospital.

The cases and observations, which I am now about to report, are intended to illustrate a few points in the pathology of syphilis, which, I am disposed to believe, have not hitherto been sufficiently noticed. The first and most important group of these cases are given as instances of

I.—*Syphilitic Affections of the Encephalon.*

Case I.—Mr. S. Wright, a native of Ireland, aged twenty-eight, of plethoric habit, and usually in the enjoyment of robust health, sent for me on account of what he supposed to be an attack of inflammatory rheumatism, December 9th, 1841. He was bled, and put upon the use of diaphoretics, and other internal treatment, for a few days, without much benefit. An extensive papular eruption now appeared over every part of his body, accompanied with iritic inflammation in one of his eyes. Hitherto he had denied the existence of any venereal taint; but now, being somewhat more alarmed, he informed me that he had a chancre on his penis, which had existed there about two months, without giving him any uneasiness, and which he had entirely neglected. I put him upon an alterative course of blue pills, which he steadily pursued, without pushing it to ptyalism, for about six weeks, aided by the decoction of sarsaparilla and vapor baths. At the close of this term, his symptoms had entirely disappeared; and on suspending the use of the medicine he appeared to be again in the enjoyment of vigorous health.

About the middle of April, 1842, he called upon me on account of a severe headache, accompanied with partial deafness and a buzzing noise in his right ear, and with occasional rheumatic pains about his shoulders, which symptoms had all originated within the past fortnight. The headache was mostly confined to the region of the right ear; it was not increased by pressing on the scalp; at first there was no evidence of external disease about the scalp, but in the course of a week or two several small nodes became apparent. His pulse now became accelerated, and there was an evident febrile reaction of the system. The means instituted for relieving him from these symptoms, were occasional cupping, blisters behind the ear, stimulating purges, the tincture of guaiacum, the tincture of actea racemosa, hydriodate of potassa, the decoction of sarsaparilla, and vapor baths; all of which were employed, either conjointly or in succession, for nearly six weeks, without producing any very marked relief.

About the first of June, I put him on the use of corrosive sublimate, of which he took an eighth of a grain three times a day, without intermission, until June 14th, when suddenly he became hemiplegiac throughout the whole of the left side; the headache—rather ear-ache—deafness, and buzzing noise, still persisting. I now bled him anew from the arm, applied a blister over the whole of the scalp, directed active purging, suspended the fürther use of mercurial medicine, and on the following day placed a seton at the back of the neck.

Under this course, in a few days, he began to regain the use of his arm; and towards the close of June he had so far recovered as to be able to walk about the room. The relief, however, was but temporary. The febrile action still continued, he became lethargic, and early in July he began to have well marked rigors, and occasional severe tremors, amounting almost to convulsions, alternating with paroxysms of fever. The paralysis became more decided. He fell into a state bordering on apoplexy; and for several days before his death, which occurred on the 25th of July, 1842, he passed his fæces and urine involuntarily. I had no opportunity of making a post-mortem examination.

Reflection upon the foregoing case brought to mind a few others somewhat analogous.

Case II.—William Russel, a seaman, of spare habit and middle age, for several years a laboring man about the N. Y. Hospital, requested me, in the spring of 1837, to prescribe for him on account of a severe headache and rheumatic pains, from which he had suffered for several months. He complained of frequent vertigo, and was rather deaf. He attributed all his ailments to having caught cold, long since, by lying on the grass. Soon after he applied to me, he had two or three attacks of what appeared to be epileptic convulsions. He had been several years married; and until my attention was called by his wife to numerous small periostial swellings on his scalp, I had not looked upon his symptoms as being of venereal origin. I had already placed a seton in the back of his neck, and resorted to general depletion. I now put him on an alterative course of mercury, with the decoction of sarsaparilla. The nodes gradually disappeared, and with them the headache, rheumatism, and disposition to epilepsy.

I have had frequent occasion to see him ever since. He has always been addicted to drinking; he is still rather deaf, but has had no return of his other alarming symptoms.

Case III.—A mulatto seaman was admitted into the hospital about two years and a half ago, with excruciating pain in the region of the left ear, attended with deafness, external swelling, and in the progress of his case, with paralysis of the muscles of the face on the affected side. He had had nodes on different parts of the scalp, and other symptoms which led me to attribute the affection of the ear to constitutional syphilis; and this opinion I expressed at a consultation which was held in reference to the case soon after his admission. Not being under my immediate care I took no note of the various stages of the case; the patient, however, remained in the hospital several months, and finally died comatose; death, if I recollect right, having for some time been preceded by convulsions and general paralysis. I had an opportunity of examining the skull after death. The disease had destroyed the whole of the petrous portion of the left temporal bone with the exception of a portion of its inner surface, which still retained its form, although so thinned and changed in structure as to be flexible like parchment. The rest of the petrous portion of the bone was replaced by a mass of putrilage. The dura mater, over the seat of disease, had been either absorbed or decomposed, and an immense collection of purulent matter extended along the whole base of the brain. After macerating the skull, it was further found that the squamous and mastoid portions of the temporal bone, a great portion of the left half of the occipital bone extending to the foramen magnum, the left portion of the body of the sphenoid bone, and a part of the rim of the first vertebra, had been so much eroded as to crumble to pieces. The skull, which is now deposited in the pathological collection of the hospital, presents an opening in its walls sufficiently large to admit a closed fist.

Case IV.—A seaman with symptoms resembling those of the preceding case, was admitted into ward No. 6 of the marine department of the hospital, in the summer of 1835. The disease originated while at sea, without any appreciable cause. No inquiry was made in reference to a venereal origin; and I have no recollection of any concomitant symptoms that would lead to such a view of the case. The patient survived only eight or ten days after admission. The temporal bone on the left side was carious on its inner surface, and an immense deposit of purulent matter was found within the cranium.

Case V.—While on a voyage between this city and Liverpool in October, 1835, I was called to attend the mate of a vessel who was suffering severe pain in the right side of his head, mostly confined to the ear, accompanied with fever, and evidently connected with periostial inflammation, the patient, at the same time, having nodes on different parts of the scalp. I treated him by local depletion, purging, revulsives, and counter-irritants, with partial benefit. He resumed duty a few days before the close of the voyage, but on reaching Liverpool the disease reappeared with increased severity. He returned to New

York an invalid, and died of this disease of his head within a few weeks after reaching home.

Case VI.—Mr. M., a gentleman of middle age, formerly of firm constitution, but for several years past an invalid, applied to me on the 20th of January, 1841, in the last extreme of prostration, both mental and physical, from protracted pain and a long-continued course of depressing treatment. He suffered principally from severe headache and sympathetic derangement of the digestive organs. The scalp was studded with large periostial swellings; he had a few copper-colored blotches on different parts of his body; and he was in a state of great emaciation, with occasional paroxysms of fever. He dated the origin of his disease to an attack of primary syphilis some twelve years previous, which had been treated with mercury, and subsided for a time; but which was soon afterwards followed by rheumatic pains and other secondary symptoms, that have continued to trouble him almost without intermission ever since. He had been married about eleven years; his wife was a robust and healthy woman. They had had but one child, a girl, now ten years old. He had recently been in the hands of some ignorant charlatan, who had bled him and resorted to other equally improper measures. I put him on the use of a generous diet, with anodynes at night and anodyne embrocations to the scalp; and I administered internally hydriodate of potassa made into pills with extract of gentian and extract of hyoscyamus. On this course he gradually rallied, so that within three months he gained twenty-five pounds of flesh; and as a further proof of his renovated energy, his wife became pregnant for the first time in ten years, and in due time gave birth to a large and vigorous boy, free from all syphilitic taint, with the exception perhaps of several very large bullar eruptions, which arose on its thighs when it was about a month or six weeks old.

But the points for which I have cited this case at present are, that in the progress of recovery I have more than once observed this gentleman in a state of mind bordering on fatuity. He was subject to vertigo, and took an unusual length of time to consider the plainest questions, and on one occasion, while engaged at a game of chess, he was seized with an epileptic convulsion, which recurred in the course of the same evening; and, for a month or two afterwards, he had several threatenings of a similar attack. Although this patient has so far recovered as to be able to attend to business, his head still troubles him occasionally.

Cases of nodes on the head leading to necrosis of the skull are too common to excite much interest. In such cases it is not uncommon to find both tables of the skull destroyed, so that the pulsation of the brain may be observed through the ulcerated openings. In the following instance the disease, originating in this way, finally led to the destruction of most of the organs of sense.

Case VII.—Mr. I. W., a young man of good constitution, having contracted chancres, was treated by mercury, which he probably took somewhat more freely than necessary. His head soon afterwards began to trouble him, and several nodes arose. When I first saw him, now several years since, one or two of these nodes on the forehead had progressed to suppuration, and the os frontis was extensively exposed. The disease extended between the periostium and skull, first towards the right ear, rendering him deaf on that side, then to the orbit of the right eye, depriving him also of the use of this organ, but leaving the eye itself, to all external appearance, healthy. The disease next progressed to the opposite side of the head, destroying first the left ear; and finally entering the left orbit, it led to disorganization of the left eye. He had further, frequent discharges of blood and purulent matter, proceeding sometimes through the throat, but usually through the nostrils, from the base of the skull. He lost the sense of smell. The constant pain and excessive discharge of purulent matter, gave rise to hectic fever and great emaciation, which at one time threatened immediate dissolution. But in time the discharges ceased without any extensive exfoliation, the febrile symptoms subsided, and the patient at length regained his usual degree of general health. He still, however, continues hopelessly blind of both eyes, deaf of both ears, deprived of the sense of smell, and having only the sense of feeling through which to receive the impressions from the world about him. The loss of hearing has had a singular effect in modifying his voice, which is now very loud, but almost inarticulate.

In some of the foregoing cases the disease of the head evidently resulted, as in this last instance, in inflammation of the pericranium. In some of them, as in Case III., it probably originated within the cavities of the temporal bone; and in others, as in Case I., probably still more deeply. In the following case, perhaps the most remarkable of the present group, the disease appears to have originated in the dura mater, which is, indeed, a sort of internal pericranium, belonging to the fibrous tissues, and hence not exempt from the ravages of syphilis. I should here remark, that, prior to the completion of the following case, the foregoing remarks were drawn up by themselves as a commentary on Case I., and read before the NewYork Medical and Surgical Society.

Case VIII.—A consultation was held at the hospital, at which all the attending surgeons, and one of the attending physicians, were present, September 24th, 1842, in the case of Jacob Stans, a mulatto, aged thirty-nine, who had been in the medical department of the house since the 19th of July previous. For two years before admission, the patient had been subject to epilepsy, and of late he had become hemiplegiac in his right side. The disease, according to the patient's own account, originated from a blow which he received by striking the left side of his head against a spar, some two years before the first occurrence of the epilepsy. Most of the gentlemen present at the consultation coincided in this view of the case; and the question to be determined was, the expediency of resorting to the operation of trephining, taking it for granted that there was either a spicula or morbid growth of bone pressing upon the brain, beneath the point said to have been struck.

On a minute examination of the case, I was led to dissent from the general opinion in reference to the cause of the disease, and to attribute the patient's symptoms to syphilitic inflammation of the fibrous tissues about the head. And without strenuously opposing the operation of trephining, I intimated the propriety of an alterative course, (which, by the way, had never been attempted), aided by a seton in the back of the neck. The circumstances which led me to this view of the case, and which I recorded in my first minutes of the case, were the following:—

1. The patient, though many years a married man, acknowledged that some five or six years ago he contracted the venereal disease, which was treated without resorting to the use of mercury.—2. He has since suffered from rheumatism, but not lately.—3. He has a cicatrix on his right shin, the result of a deep and free incision made three or four years since, for the cure of what was called a growth of bone, probably a node.—4. He has long been subject to painful swellings on different parts of his head, and some of these, on the right side of the head, have at times given him more pain than he has usually felt over the spot upon which the blow is said to have been received.—5. His wife states, that until he began to have fits he made no serious complaint of his head; and that he had forgotten the accident until after she had reminded him of it. The injury itself does not appear to have been at first severe; it led to no abrasion of the skin, and in a day or two afterwards he suffered no inconvenience from it.—6. A free incision had been made over the supposed seat of injury soon after the patient was admitted, which showed the pericranium to be somewhat thickened. The wound had already cicatrized.

The result of the consultation was the application of the trephine. The bone was of its usual thickness, and no morbid appearances were observed on either surface of it, nor on the dura mater beneath it. The wound soon closed. The operation had not the least effect in relieving either the paralysis or the repeated attacks of convulsions. Soon after the wound had cicatrized, a small soft pulsating tumor began to project through the artificial opening in the bone. But this never acquired any great size; the integuments remained sound over it, and towards the close of the case it began to subside without interference. The patient by degrees sank into a state of idiocy, the paralysis became still more marked, and the epileptic fits continued to recur at irregular intervals up to the time of his death, which took place May 13th, 1843.

Post-mortem Examination.—In raising the scalp, the pericranium was found thicker than usual, irregularly so in some places. It adhered with unusual firmness to the bone. The dura mater, over the whole upper and lateral portion of the left hemisphere, adhered very firmly to the skull; and on partially exposing it, several hard and irregular prominences were observed upon the surface of the brain, which corresponded with depressions on the inner surface of the bone. These irregularities lay farther back than the point at which the trephine had been applied. The whole of the inner table of the skull, on the affected side, had a rough, vascular, and eroded appearance. At three distinct points the process of absorption had gone to the extent of perforating it, so that on exposing it to the light, it was found thin throughout the whole of the middle third; and in the centre of this thinned portion there were three distinct and quite large perforations, entirely independent of the artificial one, and at the distance of an inch or more behind it. The skull on the opposite side was perfectly healthy.

The dura mater, when divided, was found irregularly thickened; in some places, excessively so, the diseased appearance corresponding in situation and extent with the diseased appearances on the bone. There were extensive adhesions about the fissure of Silvius, binding the anterior and middle lobes on the affected side into one mass. The dura mater over the whole of the lateral and upper part of the middle lobe was consolidated with the tissues of the brain beneath it.

But the most striking appearance was an immense deposit of inorganic matter, in part of a dirty white color, and in part of a yellowish color like concrete pus; of a cheesy consistence; and, when taken all together, of a pyramidal shape, having its base upon the diseased portion of the dura mater, and its apex reaching to the roof of the left lateral ventricle. It might have weighed three ounces. Internally it appeared to lose itself in the consolidated tissue of the brain; but the brain in other parts about it was softened and disorganized. The whole mass corresponded in appearance with morbid cheesy deposits that are occasionally found between the periosteum and the bone, as the result of chronic periostitis. It was clearly not of a scrofulous nature: there were no tubercles in the lungs, nor in any other organ that was examined.

Next to the satisfaction of discovering truth, is that of having the discovery confirmed by the observation of others. Since the foregoing cases were recorded, and previously to the post-mortem examination of the last case, I have met with a passage in the recent translation of M. Ricord's Treatise on the Venereal,* which I think goes directly to confirm my own observations. "Under the head of tertiary symptoms," says he, "we must place nodes, deep-seated tubercles, tubercles of the cellular tissue, periostoses, exostoses, caries necrosis, *syphilitic tubercles of the brain*, which I have described and shown to the Académie de Médicine; internal affections, which have been hitherto ill defined, (Sanchez,) &c."

II.—*Syphilitic Affections of the Testicle.*

It is not my intention, on the present occasion, to attempt a minute description of the syphilitic testis. The disease has already been too well described by Benjamin Bell, Dupuytren, Cooper, and others, to require any further illustrations at my hands. It is remarkable, however, after all that has been said and written on the subject, that there should be any, with extensive opportunities of observing, who should still question the existence of syphilitic degeneration of the testicle. Yet such is the fact.

About two years since I was invited, with several surgical friends, to witness an operation for the removal of a diseased testis, by a gentleman of acknowledged ability, who had every opportunity of becoming familiar with the disease in question. The patient, a married man, had previously submitted to a similar operation; so that now he was about to lose his remaining testicle. Observing his integuments studded in every direction with cicatrices left by a previous attack of rupia, I at once remarked that the disease of the testicle depended on constitutional syphilis. After the operation, before proceeding to dissect the diseased organ, the question was put, whether any of the gentlemen present had ever seen or heard of a syphilitic disease of the testicle. To my surprise, the reply was universally in the negative. Previous to this I was under the impression that this affection was as well understood as the ordinary hernia humoralis following gonorrhœa. I had often demonstrated it to the students attending the hospital, and almost as often succeeded in curing it by the use of mercury, aided by suspensory bandages, local depletion, strapping, and the application of the compound ammoniacum plaster; and that, too, in some cases, even after the disease had progressed to ulceration, and to the formation of spermatic fistulæ.

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* Page 80, New York Edition, 1842.

M. Ricord, in classifying the symptoms of syphilis, divides them into the primary and successive, which are directly contagious and communicable by inoculation; the secondary, which are not inoculable, but capable of being transmitted by inheritance; and the tertiary, which are neither inoculable, nor capable of being transmitted from parent to child. In this last group he places the syphilitic testis. The correctness of these distinctions I have had more than one reason to question. For example, I have known secondary syphilis communicated to an infant by nursing at the breast of an affected woman, and in turn from the infant to its own mother. For the particulars of which, see my last Dispensary Report, United States Medical and Surgical Journal, for October, 1835, Vol. II., p. 103. One of the following cases had also some bearing on this point.

Two cases of syphilitic inflammation of the testicle occurred in ward No. 10, of the marine department of the hospital, in January last. They had both progressed to ulceration. I put them both on an alterative course of treatment. One of them soon got well; the other was not so fortunate. The latter patient had suffered from the disease for a year or two. He was anxious to have the gland removed, and submitted reluctantly to the alterative course. Some time after his admission, a few excoriations occurred on the under surface of the prepuce, evidently caused by the direct application of the irritating discharges from one of the fistulous openings, against which the part rested. These excoriations finally degenerated into well-marked and obstinate secondary sores, with ragged, indurated, and copper-colored edges. The other testicle also began to sympathize.

Yielding to the patient's request, I called a consultation to sanction the operation for removing the gland. But some of my colleagues, looking upon these secondary sores of the prepuce as indicative of vitiated general health, objected to the operation on the ground that if the testicle were removed, the wound would not heal, and the disease would re-appear in the surrounding parts. The organ, however, was removed some weeks afterwards by my successor on duty, and I am happy to add, without the final fulfilment of any such alarming prognosis.

The disease in question is always late in its appearance, and slow in its development, and never acquires the great size sometimes witnessed in the acute inflammation of the testicle following gonorrhœa. After having once disappeared, it is apt to return, and many patients, rather than be subjected to these relapses, or to the use of mercurial alteratives, will urge the extirpation of the testicle. It should be borne in mind, however, that the removal of one testicle gives no immunity against, but on the contrary, perhaps rather favors the appearance of, the disease in the other testicle.

I have had several opportunities of examining the diseased gland after its removal. The primary seat of the affection appears to be in the fibrous envelope forming the proper capsule of the testis. In one instance, where the disease had not yet progressed to ulcerative action, this tissue was found enormously thickened, while the proper tissue of the testicle, with the exception of one or two small congestive spots, was to all appearance healthy. In other cases, where ulceration had occurred, or where fistulæ had formed behind the epididymus, or in the course of the cord, I have found the fibrous envelope equally thickened; and the tubuli uriniferi, with their continuous vessels of the epididymus, atrophied, pale, and immersed in serous effusion.

III.—*Syphilitic Affections of the Bronchial Tubes, simulating Phthisis.*

Syphilitic ulceration in the fauces, larynx, and upper part of the air passages, are too common to require any special notice. But so far as I recollect, modern writers are usually silent as to the existence of secondary ulcers in the bronchial tubes. Some of the older writers have spoken of them. Severinus speaks of having detected syphilitic ulcers in the lungs and air tubes leading to them. Chronic affections of the lungs are frequently observed after an attack of syphilis, either alone, or in connection with other symptoms of syphilitic cachexia. Some of these cases, doubtless, depend upon the rapid development of tubercles during the state of general prostration induced by the venereal affection. Others of them, however, though looked upon as instances of tubercular phthisis, depend upon the existence of syphilitic ulcers within the ramifications of the bronchial tubes.

August, 11th, 1842, I assisted my colleague, Dr. Buck, in the post-mortem examination of a patient who had been under his treatment in the hospital for a few weeks previous, with a secondary ulcer over the parotid region, with some spots of syphilitic rupia in other parts of the body, and with a slight cough. Just before death he had been suddenly seized with hemoptysis. The hæmorrhage was so rapid and profuse as to carry him off almost instantly. In the examination, a ragged, circular ulcer, nearly as large as a cent, with dark purplish edges, and with diffuse inflammation of the mucous surface for some distance about it, was found in the left bronchus just beyond the bifurcation; and this ulcer had perforated the bronchial tube, communicating with a sort of cavity in the cellular tissue outside of the tube, and thence extending to one of the left branches of the bronchial artery, into which it had opened, and given issue to the hæmorrhage, which was the immediate cause of death. There was a second ulcer within the same bronchial tube, about one inch and a-half, or two inches deep, as large as a half-dime piece. Though small, it had nearly perforated the bronchial tube, and had an irregular base, with ragged and uneven edges of the same color as the other.

IV.—*Syphilis simulating Primary Diseases of the Digestive Organs.*

Syphilitic cachexia, when accompanied with ulcers, or any other open form of the disease, is very easily recognized. In some cases, however, the diagnosis is rather difficult, and the disease is liable to be mistaken for scrofulous cachexia, for dyspepsia, chronic hepatitis, or some other disorder entirely different from it.

C. W., a member of the bar of this city, had for several years been an invalid, and had undergone a variety of treatment for what he supposed to be an affection of his liver. He was sallow, feeble, frequently dyspeptic, and occasionally troubled with bilious vomiting. I discovered a few small nodes upon his head, and on minute inquiry ascertained that he had several years before been affected with primary chancres. I put him on a mild alterative course. His general symptoms subsided, and for two years he remained perfectly well. In the early part of last winter, during my absence from the city, he had a slight return of his old complaints; and the physician who saw him, attributing his symptoms to disturbance in the functions of the liver, purged him with calomel, but without much relief. I saw him January 4th, 1843. He had then a white tongue, loss of appetite, slight fever, with intercurrent chilliness, sallow complexion, and marked emaciation. Recollecting his former troubles, I questioned him in reference to his head, and on examination discovered two small nodes, one of which, just over the vertex, was soft. I lanced this, and gave issue to a small collection of gummy matter that had been confined between the periosteum and the bone. I saw the patient again in a day or two. His whole condition had changed for the better. He stated with some exultation, that from the very moment the lancet entered the scalp, he felt that all his difficulties had been removed. He rapidly regained his health without any other treatment, and still remains perfectly well.

ART. IV.—*A Curiosity in Obstetric Physiology.*—By JOHN H. GRISCOM, M. D., one of the Physicians of the New York Hospital.

IN the month of October, 1841, I was consulted by Mrs. R. M. H., for a hæmorrhagic discharge from the vagina, she being pregnant, as she believed, about seven months. This discharge had existed about five months, mostly every day, but sometimes ceasing for a while; but latterly it had become more steady. She described it as apparently not pure blood, but a mixture of blood and water, or very thin blood, of a bright color, and never coagulated. She had felt the motions of the fœtus with considerable distinctness, until within a month, since when they had diminished in strength and frequency, and for the last few days had totally ceased. Her general health, (except some muscular pains, and some difficulty in moving about actively,) and her appetite, were excellent. She was bled on the 16th, the blood being unusually black. The operation enlivened her much, and she thought she felt some movement of the fœtus, but too indistinct to be certain of it. An examination of the abdomen, in the sitting posture, developed a general enlargement which was quite soft, with none of the uniform and peculiar firmness of the healthy impregnated uterus of that period. Midway between the umbilicus and pubis, the fingers could be pressed back nearly to the prominence of the sacrum. When this was done, there were distinct traces of a tumor, occupying the right iliac fossa, of an elongated form, and very tender to the touch, and a smaller tumor at the left side of the median line. The upper edges of both were distinctly perceived by the hand when pressed gently between them. There was no requirement for any interference until the 24th, when the husband came to me and said he believed she was in labor. I found her sitting up, and having what seemed very much like labor pains, every few minutes. These ceased in a few hours, but recurred slightly the following day. On the 26th she went to bed, complaining of severe pain in the abdomen generally, greatly increased at short intervals, but not subsiding entirely at the intermissions.

An examination, per vaginam, was now made, and a firm round tumor was perceived, giving the distinct impression of a fœtal head felt through the parietes of the uterus. It was movable, as is ordinary in pregnancy, and motion was communicable through it to the abdomen.

The abdomen now became very tender to the touch, especially over the right tumor; the pulse rose to one hundred and thirty, and the tongue became coated; and though both tongue and skin remained moist, the tenderness of the abdomen soon became so excessive, that peritonitis appeared severely developed. The hæmorrhage from the vagina now disappeared, and did not recur. Active antiphlogistic treatment was adopted; and each successive effort produced a subsidence of the symptoms, but for a few minutes only. The flame would suddenly light up again, after a short period of ease to the patient, and of hope to the attendants, and burn with increased intensity, until, at the end of the week, she sank calmly in death.

When confined to the bed, Mrs. H. first informed me that she had *always* doubted her being pregnant, though she had had many of the usual symptoms, such as enlargement of the mammæ, with exudation of their milk, motions of fœtus, etc.; but the latter were often so obscure, as to lead her to hesitate between them and borborygmi.

Autopsia in company with Drs. Boyd, Swett, and S. T. Smith.—The interior abdomen presented the usual appearances of inflammation of the peritoneum and intestines, with great vascular injection of the omentum, and loss of its substance; and among the folds of the bowels and through the cellular tissue, there was a large quantity of reddish purulent matter. In the right iliac fossa was a large tumor, of a blue color, and towards the left was the uterus, about the size of that organ in the second month of pregnancy. Extensive recent adhesions existed between the bowels and the tumor, and in separating them, several ulcerated holes were discovered in the membrane covering the tumor.

The tumor was found to dip down into the pelvic cavity, and was subsequently observed to occupy its entire extent. The contents of the pelvis were removed and laid upon a platter for closer inspection. The uterus was first opened longitudinally; it was very healthy looking, except in size, and was entirely void of anything like a fœtus. It contained a small quantity of mucus, and its inner surface was copiously dotted with red points. The left fallopian tube and ovary were sound, as was also the right tube. The latter was traversed with some difficulty by means of bristles, up to the fimbriated extremities, which terminated against the tumor, the latter being in fact the right ovarium, developed to the size of a large cocoa nut. This was opened longitudinally, and immediately there was brought to view a perfectly formed fœtus, of about six months, placenta and all complete. The child appeared to have been dead a considerable time; it was very soft, and the placenta was partially converted into purulent looking matter, similar to that found in the peritoneal cavity. It had escaped through the openings before noticed. The ovarium, as now seen, consisted of a large sac, of a mingled muscular and membranous texture, about as thick as a silver dollar, and was irregularly divided into three or four large cells by membranous partitions. The fœtal head presented towards the vagina.

ART. V.—*On Electro-Puncture in Hydrocele, with Cases.*—By F. CAMPBELL STEWART, M. D.

NUMEROUS and diversified as are the methods in use for the treatment of serous effusions, and of hydrocele in particular, we still have another in the proposed application of electricity, as a curative means in this disease.

The attention of the profession in Europe was first attracted to the subject, by the publication of a case,* which was stated to have been successfully treated in this manner by Dr. Zanobi Pecchioli, Surgeon to the hospital attached to the University of Sienna, with whom the idea appears to have originated.

The reasons given by the Tuscan surgeon for departing from the established methods of treatment by incision, excision, or injection, "because of the pain of the former, and the insufficiency of the latter," appear futile; and it would have been as well for him to admit frankly that he was desirous of performing an *experiment*, in which he had reason to anticipate success. It matters but little, however, what motives may have induced him to resort to the use of galvanism; for his success in the case, which I shall presently report, and likewise the successful termination of other cases operated, justify the innovation.

Immediately on the publication of Dr. Pecchioli's case, a distinguished surgeon of Paris, Dr. Leroy, undertook to repeat the experiment, with the view of ascertaining the just value of this new method, as a therapeutic means; and as several cases of hydrocele existed in the public hospitals at the period, no difficulty was experienced in procuring subjects fit for, and willing to submit to, any operation that might be proposed for their relief. Before, however, proceeding to give the details of the cases in which I assisted Dr. Leroy, it will be better to communicate a brief summary of that of the Italian surgeon.

Dr. Pecchioli's Case.—The subject in this instance was a young man, nineteen years of age, and of good, healthy constitution. He had had for three years a considerable swelling of the scrotum, which made its appearance without any apparent cause, and had, so far, resisted every method of treatment. On his admission into the University Hospital at Sienna, a simple, double hydrocele was immediately diagnosticated; and, for the reasons above alluded to, the surgeon to the institution decided on applying galvanic electricity for the purpose of exciting the absorbents, to an extent to enable them to take up the effused serum. Accordingly, he proceeded to introduce four needles into the scrotum; two on each side, one at the summit, and one at the base of each tumor; which enabled him to establish a galvanic current through the sacs, as soon as the needles were brought into contact with the respective poles of a small battery. The application of the electricity was continued for five minutes, during the whole of which time the patient experienced acute pain in the right testicle.

As soon as the needles were withdrawn, it was perceived that a decided change had taken place in the size of the two tumors; and they continued so rapidly to diminish in volume, that at the expiration of

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* See *Bulletino delle Scienze Mediche,* Number for September, 1841.

five hours they appeared almost entirely empty. Towards evening of the same day, however, there were developed considerable heat and redness of the part, and the liquid re-accumulated so as to equal, if not surpass, the original quantity.

After the interval of a few days, the operation was repeated, and again produced a similar result.

Not discouraged by this apparent want of success, the surgeon had recourse, for the third time, to the same means, a few days after, and on this occasion had the satisfaction to see his endeavors crowned with success; for tho effused liquid became entirely, and, as he asserts, *permanently* absorbed, without any other means having been used than those indicated.

At the expiration of fifteen days from the last operation, the young man was discharged from the Hospital as cured, since which time nothing has been heard of him.*

It is to be regretted that the person who reported this case for Dr. Pecchioli did not enter more into its details, and communicate distinctly the *modus operandi*, with the size and power of the battery used, &c., &c. These omissions will, however, be rectified in the cases which I am about to recite as having been treated by Dr. Leroy and myself.

Dr. Leroy's first Case.†—François Vray, a gardener by profession, aged seventy-two years, entered the ward Sainte Marthe, at the Hotel Dieu of Paris, on the 8th of December, 1842, with a hydrocele of the right side, which was of ten years standing, and had continued gradually to increase in size up to the period of his admission. During the absence of M. Roux, surgeon-in-chief, Dr. Leroy obtained permission, and the consent of the patient, to try the effect of galvanism in his case. Accordingly, on the 22d of December, he caused a small battery, of sixteen pairs of plates, two inches square, to act on the hydrocele, through two needles, placed, one in the sub-cutaneous cellular tissue of the scrotum, and the other penetrating into the cavity of the tunica vaginalis.

The operation caused some pain at first, which, however, soon subsided. It was continued during twenty-five minutes.

In two days after the first application of electricity, the tumor had disappeared entirely. On the 1st of January, however, a small quantity of serum re-appeared, which induced M. Leroy to operate again on the following day. As the patient appeared to suffer considerably on this occasion, the needles were withdrawn in twenty minutes. On the 12th of January, the hydrocele was found to be wholly dissipated with the exception of a very small collection, probably a thimbleful, at the lower part of the scrotum. The galvanic current was made to act on this point for ten minutes, during which period the patient complained more than he had yet done. In two weeks from this time, the effused liquid had all been absorbed, and the patient was considered as cured.

Dr. Leroy's second Case.—C. J. Dusart, who had suffered with a large hydrocele of the left side for twelve years, was admitted into the wards of Professor Blandin, at the Hotel Dieu, (Salle St. Jean, No. 36,) on the 23d of December, 1842. He was a baker, and aged fifty-five years. He had undergone no treatment at all prior to his entrance into the hospital. Besides the principal disease, which, as stated, occupied the left side, there was likewise a very small collection on the right side of the scrotum.

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* This case will be found in a review of the Italian Medical Journals, in the *Gazette Médicale de Paris*, for 1841, page 805.

† I give this and the following cases from my private notes. They have never before been published that I am aware of.

On the 30th of December I assisted M. Leroy, who operated in precisely the same manner as described in the last case. The action of the electric current was kept up for twenty-five minutes, as in the first operation on Vray. The patient complained that the pain was very severe *at first*, but stated that it gradually diminished until towards the close of the operation, when he experienced no sensation whatever.

On January 2d, three days after the operation, M. Blandin and others, who had previously seen the patient, admitted that a considerable portion of the liquid had been absorbed.

From this period, up to the 12th of January, two more applications of electricity were made, after each of which there was a perceptible diminution in the size of the tumor; and on the third of February, Dusart was discharged from the hospital as cured.

The Author's Case.—Jules Mayer, a porter, aged forty-one, presented himself for examination when I was attending with a friend at the Bureau Central of the public hospitals at Paris. He had a large tumor on the right side of the scrotum, which was of comparatively recent date, having made its appearance about ten months previously. After a proper examination, it was easy to detect the existence of a simple hydrocele. The man was in good health, and had never suffered from anterior diseases.

On my proposing to him the application of galvanism, he readily consented; and having procured proper needles, and borrowed a battery of similar power with the one used by Dr. Leroy, I proceeded to operate in the following manner:

The patient was placed in a recumbent position, on a settee, and had the pelvis and lower limbs slightly elevated above the rest of the body. Having ascertained the position of the testicle, I introduced one of the needles into the cavity of the sac, and endeavored to keep it in contact with its parietes. The second needle was placed, very superficially, in the loose cellular tissue of the scrotum, and as far as possible from the first.

There was little or no pain occasioned by the introduction of these instruments; nor did the patient complain at all, except at the moment when the galvanic current was set in motion by the application of the two poles of the battery to the eyes of the needles, when he experienced a smart *burning* shock, which caused him to start.

I allowed the action to be kept up for thirty-five minutes, and occasionally added a little more acid to the solution in the trough, to keep up the supply of electricity.

On withdrawing the needles, it was perceived that small, red pimples had made their appearance at the points where they were introduced. These, however, disappeared in the course of an hour.

Mayer came to me, as I had requested, in four days after the operation, when on examination, and by measurement, it was found that the tumor had diminished to nearly one-third of its original size. I directed him to continue the use of a suspensory bandage with which he had been supplied, and to rub in a little mercurial ointment, every morning and evening, which he continued to do until the end of the week, when I again saw him. On this occasion, there remained but so trifling a collection of liquid as to render the detection of its presence somewhat difficult.

Being on the eve of departing from Paris, and unable to attend to him further, I directed my patient, in case of necessity, to apply to my friend Dr. Leroy, to whom I had already related his case. Since then I have heard nothing of him, and conclude that, as he has not yet visited Dr. Leroy, his relief has, thus far, been permanent.

From the success attending this new method of treatment, in the above cases, it would appear at least to be worthy the consideration of the profession, and to merit a closer inquiry into its actual value.

Although fully impressed with the belief that it will be found a useful and at least a safe plan of treatment, I am far from making the positive assertion that electricity alone is capable of causing the absorption of serous effusions. The subject has not yet been sufficiently examined, and in the only cases in which the experiment was tried, a sufficient time had not elapsed before the patients were lost sight of, to enable us to assert, with any degree of positiveness, that a permanent cure had been effected in any one of them. Indeed, the result, in the first two cases that I have noticed, would lead to the inference that such was not the case; for it will be recollected that, after having disappeared entirely after the first operations, the liquid re-accumulated in a short space of time; and it was not until after the third application of electricity that any permanent influence appeared to have been exercised over the absorbents. Even then it might have been only temporary, more lasting, it is true, than the preceding ones, but still only a temporary excitation, productive of momentary good, but insufficient to ensure a radical cure.

It may likewise be interesting to ascertain how far the influence of the simple puncture, made in introducing the needles, may have extended in producing the results supposed to be attributable to electricity. It is well known that many cases have occurred where an accidental or intentional puncture has caused the absorption of a hydrocele, and one is reported by a Doctor Deleau, in one of the French medical journals,* where the simple introduction of a *very fine* needle had proved sufficient to bring about a cure, which remained permanent.

Before admitting, then, the beneficial influence of electricity in these cases, we must institute comparative experiments, and ascertain if the same result cannot be obtained by acupuncture alone. If it be found that the same phenomena do not occur without the aid of galvanism, we must admit its influence; and seeking for an explanation of its mode of action, we must endeavor to ascertain if it acts chemically or physically, or, as Dr. Pecchioli thinks, simply "from the excitation which it occasions to the vital properties of the affected membranes."

Should the result of future investigation be confirmatory as to the usefulness of this new method of treatment, we may attempt to generalize the principle, and look for success in other cases of chronic serous effusion; as, for example, in ascites.

Hoping that the relation of the foregoing cases, and the few remarks with which I have thought it necessary to accompany them, may induce other members of the profession, particularly those connected with our public institutions, to investigate this interesting subject and communicate the result of their experience, I shall conclude for the present, after giving some definite instructions for applying the electricity for the use of such as may be disposed to repeat the experiments.

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* Gazette des Hopitaux.

The needles used ought to be long—at least four inches in length—and fine. After being greased, they should be introduced cautiously, and in the manner already described; the one into the sub-cutaneous cellular tissue of the scrotum, at the summit of the tumor, and the other into the cavity of the tunica vaginalis, near its base. The battery, which may be composed of from twelve to twenty pairs of plates of between two and three inches diameter, will now be brought into action by the addition of the acid solution, (℥ij. sulphuric acid to the quart of water to commence with,) and the poles will be placed in contact with, and kept permanently applied to, the eyes of the needles, already introduced into the scrotum.

I am inclined to think that a sufficient time has not heretofore been allowed for the operation; and hence I should recommend its being continued for forty minutes or more, according to the sensation produced upon the patient. It is important, too, that a regular supply of electricity should be kept up; and this may be easily accomplished by the occasional addition of a few drops of acid to the solution in the trough.

The operation terminates with the withdrawal of the needles. The patient, however, should be required to maintain a recumbent position, and not exercise for several days.

New York, June, 1843.

Art. VI.—*On Epidemic Influenzas, with special reference to the now prevailing Epidemic Catarrhal Fever.*—By the Editor.

The history of disease presents few subjects of greater interest than the epidemic influenzas which have, of late years, prevailed with more than ordinary frequency,—a disease marked with characters so striking, as to render its identification with previous epidemics a question admitting of no doubt.

Believing that a condensed view of this subject would not be unacceptable to our readers, we propose to say a few words in reference to its past history, as regards its etiology, semeiology, pathology, prognosis, treatment, fatality, and sequelæ, and also its connection with other epidemics; and, at the same time, we intend to bring under notice the characters which distinguish the present epidemic.

Epidemic catarrh seems to bear the same relation to ordinary catarrh that epidemic cholera does to the common or sporadic cholera. It is of all epidemics the most universal, and at the same time it evinces the most extraordinary rapidity of march over continents and seas, in defiance of different climates, opposite seasons, and all varieties of weather, making undistinguishable victims of all nations and classes of people. The epidemic, at the present time, (July 1,) may be said to prevail over all the New England States, extending as far south as Virginia, and as far west, over the region of the great lakes, as the most remote points from which it has yet been practicable to receive information. Along these parallels, the invasion seems to have been simultaneous, as we have positive information that the disease raged severely at Milwaukie, on the western side of Lake Michigan, as early as in the city of New York.* But it seems not, from the latest accounts, to have extended as far south, on the Atlantic coast, as Charleston, notwithstanding we hear of it at Baltimore, Washington city, and in certain parts of Virginia; but, in the Mississippi valley, it had reached as far as St. Louis. It is here, in the city of New York, as cities always abound in the exciting causes of epidemics, that the disease seems to have its stronghold. The population appears, indeed, to have experienced an almost universal attack, neither age, sex, nor any condition in life being exempt from its invasion. To the airy habitations of comfort and affluence and to the hovels of wretchedness, its visitations are equally made—

> "—— æquo pulsat pede pauperum tabernas,
> Regumque turres."

Vessels approaching our shores, that is, as soon as they get within soundings, have some of their crew and passengers invariably attacked, —an effect, doubtless, due to the greater variability of the atmosphere of the land, which acts as an exciting cause in those predisposed by exposure to the peculiar virus productive of the disease. This has been especially observed as vessels have approached the continent along the banks of Newfoundland, as well as at Boston and New York. Many ships, however, have suffered an invasion of the disease in mid-ocean, which affords evidence, independent of the characteristic symptoms of the disorder, that the disease really belongs to the class of epidemic influenzas. Acute bronchitis and common catarrhal fever are perhaps the only diseases with which it may be readily confounded; and the single fact, that it prevails likewise on the ocean, where, as the temperature is equable, catarrhs are little known, indicates a peculiar affection, which cannot be ascribed to ordinary atmospheric vicissitudes, —the existence of a peculiar virus, whatsoever its nature, which, like that of measles, scarlatina, or epidemic cholera, is propagated under certain laws. And this conclusion is further substantiated by the two facts, that the malady attacks individuals indiscriminately, without reference to any predisposition to catarrhal affections, and that it is attended with a much greater depression of the powers of life, both corporeally and mentally, and with more local pain, than are proportionate to the severity of the catarrhal symptoms. Indeed, many individuals, after forty-eight hours' confinement by this disorder, look like convalescents from some severe and protracted disease.

Synonyma.—It is the *Rheuma epidemicum* of Sauvages, the *Catarrhus à Contagio* of Cullen, the *Catarrhus epidemicus* of Swediaur and Good, the *Morbus catarrhalis* of Ehrman, the *Febris catarrhalis epidemica* of Huxham, the *Defluxio catarrhalis* of Young, the *Febris remittens catarrhalis* of Macbride, and the *Catarrhe pulmonaire* of Pinel. By the French writers, it is variously known by the names of *Grippe, Folette, Coqueluche, Petite poste, Rhume epidémique, Fièvre catarrhal epidémique;* by the Germans, *Epidemischer Schnupfenfieber, die Russische Krankheit, Russische Katarrh, Influenz, Huhnerzipf, Blitzkatarrh;* by the Italians, *Influenza, Catarro Russo;* by the Spanish, *Influencia Rusa;* by the Swedes, *Snufsjuka.* With us, the disease is mostly known by the terms *Influenza* and *la Grippe:* the former is the Italian for "influence," implying a supposed astral or terrestrial agency in its production; and the latter is derived from *gripper*, "to gripe," "to catch hold of," being the vulgar French appellation.

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* A New Yorker informs us, that he was attacked by the disease at Milwaukie, on the 19th of June, and that the epidemic seemed to be then at its acmé, having already prevailed ten days at that place, as well as through that region generally.

Its History.—Slight notices of catarrh, resembling the disease under consideration, occur in Hippocrates and other ancient authors; but the first catarrhal epidemic accurately described by medical writers, is that of 1510, which proved fatal to Ann, wife of Philip of Spain. Since that period, we have descriptions of some twenty similar epidemics, of which the merest sketch will be here presented.

In 1510, according to Short, "it attacked *at once*, and raged over all Europe, not missing a family, and scarce a person, but none died except some children. In some it went off with a looseness, in others by sweating. *Bleeding and purging did hurt.*" In 1557, the epidemic appeared in Asia, spread over Europe, and thence extended to America. Mercatus asserts, that "before the beginning of autumn, 1557, it attacked all parts of Spain *at once*, so that the greatest part of the population in that kingdom were seized with it almost on the same day." Unlike the former, it proved fatal to many. In Alkmaer, in Holland, two hundred fell victims to it; and in a small town near Madrid, it is said that two thousand died, all in consequence of having resorted to blood-letting. In 1580, there occurred a catarrhal epidemic fever, distinguished by its complication with malignant fever or plague; and, according to Wierus, nine thousand died at Rome in consequence, again, of bleeding. The course of the disease was from east and south to west and north. In 1658, another visitation occurred in Europe, the epidemic appearing in England *suddenly*, in April. This is described by Willis, who says, that after excessive heat in August, a fatal epidemic fever followed. In 1663, sixty thousand persons, it is said, were attacked with influenza, in one week, in the Venetian states. In 1675, both England and Germany experienced a visitation, as described by Sydenham and Etmuller. In 1729 and 1730, during a period of five months, the influenza spread throughout all Europe, having attacked fifty thousand persons at Milan, sixty thousand at Rome, and the same number at Vienna. In Paris and London it was very fatal, cutting off one thousand a week, in September, in the latter city. The epidemic influence seemed to continue in operation; and, in 1732-3, it again spread over all Europe, and also appeared in America. It re-appeared in 1742–3, overrunning all Europe. The year 1762 is characterized by the next remarkable visitation of the influenza, of which an elegant description is given by Sir George Baker. Although it extended over a large proportion of Europe, yet few died, except the old, the asthmatic, and the consumptive. In America, it had prevailed in the preceding year. The next epidemic catarrh, in the order of time, was that noticed in Europe in 1775, and described by Dr. Fothergill. This visitation was mild in its character, and the most of the deaths which did occur, unlike preceding epidemics, were attributed to the *omission* of bleeding. In the spring of 1782, influenza again raged in England, Ireland, and Scotland, having, as usual, approached from the east and south. By Dr. Haygarth, the disorder was considered contagious. The influenza of 1803, which also advanced in a northerly direction, was taken advantage of for collecting a great number of notices of the epidemic from different parts of the country; and in this, the London Medical Society set a laudable example by proposing a set of queries to its corresponding members. The epidemic visited the United States the same spring; and here the disorder was often followed by a severe dysentery, while, in France, ophthalmia as frequently ensued. For an excellent account of this visitation, we are indebted to Dr. Fothergill, who considered the malady contagious. The influenza of 1830, though generally mild in its character, was perhaps universal over the earth's surface. In its wide diffusion, this epidemic spread from the east over the Americas; and, in many places, it was the precursor of epidemic cholera. The epidemic re-appeared in 1833, and lastly, in 1836–7. At the latter period, it was again most widely diffused, having existed simultaneously at Sydney, at the Cape of Good Hope, and on the shores of the Baltic. In London, Hamburgh, and Copenhagen, half the population were attacked. Of this epidemic, we have a good account in the *Trans. of Prov. Med. Assoc.*, vol. vi., that society having made laudable efforts to obtain all the requisite information. Among those attacked, the mortality, as far as could be ascertained, was about two per cent., which, according to Ozanam, is a fair average of the mortality of all the recorded instances of epidemic catarrh.

It is thus apparent that this subject is one of great importance, and richly deserves special investigation; for, from the preceding historical sketch, the deduction is warranted that, since medical records have become available, a visitation of influenza has occurred, on an average, once in every ten years. Another deduction still more important is, that of all epidemics, taken in the aggregate, this has proved the *most destructive*,—an inference that receives additional force from the well-grounded opinion, that, for years after the disappearance of the epidemic, a modified condition of the atmosphere may remain, causing a liability to affections of a kindred character.

Hence it behoves every medical association in our country, wherever the epidemic may prevail, to exert itself in obtaining all the information possible relative to its whole character. On the part of the medical department of the National Institute at Washington, it would be peculiarly appropriate to address a series of questions to the medical profession at large

Causes of the Epidemic.—Although the various accounts of the phenomena attending this epidemic, in its different visitations, abound in discrepancies; yet, in many of the descriptions, we find, either as precursor or attendant signs, *extraordinary vicissitudes of weather, thick or offensive fogs, easterly winds, and diseases, often of a similar kind, among horses, dogs, and cattle.* For example: Short says that "thick, ill-smelling fogs preceded, some days, the epidemic catarrh of 1567. July, August, and September, had been very hot and dry; and in the end of September came a very strong cold north wind." According to

De Jussieu, "the influenza of the spring of 1733 appeared in France immediately after offensive fogs, *more dense than the darkness of Egypt.*" At Edinburgh, at this time, coughs and running from the nose in horses were universal, just before the disease attacked men. In the epidemic catarrh of 1755, the disease in France, according to Petit, was ushered in by thick noisome fogs and a cold rainy autumn; and, in England, before the influenza broke out, Dr. Anthony Fothergill says that the disease was general among dogs and horses. As regards the influenza of spring 1782, Dr. Parr asserts that horses were affected with a cold at the same time, near Exeter; and in reference to this same epidemic, at Petersburg, Maertens records the following striking fact: "On a cold night the thermometer rose thirty degrees of Fahrenheit; *the next morning* forty thousand people were taken ill with the influenza." Were it deemed necessary, similar extracts might be indefinitely extended. Suffice it to add, that by Huxham it is remarked, that "the cause of epidemic catarrh seems to depend on a thick, moist, and cold air."

In one particular, having reference to the direction in which this disease travels, nearly all accounts coincide. With singular analogy to the course of epidemic cholera, its course is almost invariably in a westerly direction, and from the south towards the north. Advancing from the east, it passes through Russia and the north of Germany to England, and then turning partially round, it traverses France and Spain to Italy. But if it advances from the south of Europe, its course is from Italy through Spain, France, Britain, and the Netherlands.

As regards the origin and extension of this epidemic, there are different theories; and of these, it may be well to notice several here, to see how far they may be reconciled with acknowledged facts.

1. *Atmospheric vicissitudes of temperature and humidity, and the prevalence of particular winds.*—Although it has just been seen that this theory has many supporters, and that these phenomena actually often accompany epidemic catarrh; yet, seeing the amount of evidence of an opposite character, this explanation is very far from satisfactory. At the present time, in this city, for instance, the epidemic has been, with apparent good reason, ascribed to the combined influence of unseasonable, cold, and variable weather, to which some have added the humidity produced by the constant flowing of our abundant Croton water; but, fatal to this argument, not to speak of its general prevalence, is the single fact already adverted to, that the crews of ships cruising in mid-ocean, where the temperature is characterized by comparatively opposite phenomena, have been likewise subject to the epidemic. It is well known, however, that this malady has prevailed in every climate, at all seasons, and during every variety of wind and weather; nor, on the other hand, has the combined agency of damp weather and vicissitudes of temperature, when existing to the greatest extent, been ever known to produce influenza in a particular locality.

2. *The diffusion of some noxious matter through the air.*—Notwithstanding the extreme probability of this theory—the existence of a certain *malaria*—we are unable to demonstrate its reality. But this need not excite our surprise more than the failure of the chemical analyst to detect the malaria of marsh poison, or the virus of scarlatina or measles. As Berzelius, after inhaling a minute portion of seleniuretted hydrogen, lost the sense of smell, and suffered, for many days, from

cough, suffused eyes, and catarrh, it has been suggested by Dr. Prout, that these epidemics may be produced by some combination of silenium diffused through the atmosphere,—a notion supposed to be favored by the fact that this substance is often associated with sulphur in volcanic emanations; and that there is a close relation between the acrid, dry fogs, which have often preceded or accompanied influenza and volcanic eruptions, has been rendered somewhat probable by many facts collected by the late Noah Webster, in his "History of Epidemics." It is contended that these gaseous emanations will not be prevented from spreading over the earth by the ordinary atmospheric currents; for it is well known that even the grosser kinds of volcanic matter have been often transported many hundred miles, in a direction opposite to the wind, evidently by some counter-current. This notion of terrestrial or mineral exhalations, which has been a favorite one in all ages, was espoused by Sennertus and Sydenham.

Others have indulged in the speculative idea, that the noxious matter diffused is dependent on animalculæ, which have been proved to exist abundantly in the atmosphere by the observations of Ehrenberg. Such organized matter, it has been supposed, may, under the influence of magnetical or other changes, become so modified as to affect the condition of the atmosphere in its relations to the higher orders of living beings; or it may become a source of disease, by engendering or diffusing some peculiar virus. This hypothesis of insect life as a cause of disease, is by no means a new speculation; but it is only of late years that that vast domain of life to which the infusoria belong, has been clearly disclosed to us by the wonderful eye of the microscope. A most excellent view of this subject is presented by Dr. Holland, in his "Medical Notes and Reflections."

3. *The Electric Theory.*—This hypothesis has not been without the most strenuous supporters. By Dr. Schweich, the epidemic is ascribed to an atmospheric condition favorable to the accumulation of electricity in the animal body. The experiments of Volta, however, failed to detect any electrical changes in the atmosphere of affected places. "The uniformity of the course of influenza from east to west, thence turning round to the south, may be conceived to intimate some connection with magnetic currents; and it is not improbable that magnetical conditions may have some effect in predisposing the system to the morbid influence, or in modifying the causes on which the malady may essentially depend."*

4. *Contagion.*—To this cause, the prevalence of this disease has been attributed by many writers, Cullen having designated it *Catarrhus à Contagio.* Although the evidence in favor of its contagiousness is too forcible to be altogether disregarded, yet we cannot consider this mode of communication essential to its propagation. From inquiries instituted by Dr. Haygarth in ten of the towns of Cheshire, it appears that, in seven instances, the first cases presented themselves in houses visited by persons who had arrived from affected places. In the visitation of 1836–7, it appears from the *Trans. of Prov. Med. Assoc.*, that a similar observation was made. On the other hand, however, we discover certain phenomena, which seem absolutely inexplicable on the doctrine of contagion; as, for instance, the extraordinary rapidity of its diffusion

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* Tweedie's System of Practical Medicine.

over large tracts of the earth's surface, there being many accounts of its having attacked whole kingdoms "*at once*,"—and also the occurrence of the disease in ships, which had put to sea some weeks before the epidemic appeared at the ports from which they sailed. Upon the whole, we are certainly warranted in placing influenza very low in the scale of contagiousness.

Among the several modes of communication here referred to, we incline decidedly to the opinion of a peculiar virus—a *materies morbi.*

"It seems hardly possible," says Holland, in the work just cited, "to avoid such conclusion, looking at the whole course and history of these epidemics. It is the only view under which we can explain their identity at different periods of time, and in distant places, during the course of the same epidemic. Sir G. Baker's narrative of the influenza of 1762, or Huxham's still earlier reports of the epidemics of 1733 and 1743, might be taken throughout as a description of those of 1833 and 1837. That which occurred in 1675, and is recorded by Sydenham, equally corresponds with our recent experience. The history of the disorder at Copenhagen and Berlin will serve, with little variation, for its course and character at Lisbon and Malta. This uniformity can scarcely be explained but by identity of physical cause: and for such identity it is difficult to look to other source than some material virus;—recurring, we know not why, at different periods,—and capable, through certain unknown laws, of being widely diffused, without change of character or loss of power."

The opinion that these epidemics are due solely to atmospheric changes, and the influence of extraordinary seasons upon the human body, is successfully combated by Dr. Holland. Notwithstanding the more than common prevalence of easterly winds, with a hazy atmosphere and dense fogs, during the season of these epidemics, there is something manifestly beyond and independent of these relations. Although we have already stated our objections to this theory, the following view of the question, by Dr. Holland, will not be deemed out of place:

"A disease which has appeared and spread at different seasons, in the middle of summer as well as in the depth of winter;—which has been found traversing whole continents, continuing this course through many successive months, and often assuming even a definite direction of progress;—which affects contiguous places in different degrees and at different times;—which frequently continues in the same place for several weeks or months, under every appreciable variety of atmospheric state;—and which often affects, almost simultaneously, large masses of people living on the same spot, while others in adjoining localities are exempt;—such disease cannot be considered as due to any of the known qualities or variations of the atmosphere to which the term weather is applied. If changes in the air are at all concerned, they can scarcely be conceived to act in any other way than as engendering, or giving greater intensity, or readier diffusion, to some material virus, the active cause of the disorder. Even this is difficult to suppose under the diversity of conditions just noticed; while beyond this we cannot go without contradicting some of the most assured facts which enter into the history of these diseases."

These same arguments, somewhat modified, apply equally to the theory of what has been vaguely designated terrestrial influence.

When we reflect upon the identity of the disorder at different periods of its occurrence and in distant countries, we are obliged, in attempting to explain this fact, to refer to an identity of material cause. We also find a strong collateral argument in the near equality as to the duration of the disorder, in a given place, which seldom has exceeded six weeks; and this identity of cause is further established by the remarkable sequelæ of the disease.

It has also been a question, whether the virus, when received into the system, lies dormant for a time, like the infectious matter of some other diseases. Upon this point, Dr. Holland inclines to the affirmative, notwithstanding the existence of various facts from which an opposite inference might be drawn.

An identity of virus is further indicated by the long-persisting effect of these influenzas upon the constitution. These sequelæ, which will be noticed more fully, are due no doubt to the same virus of disease, enfeebled in action, either by diminution of quantity or intensity.

Upon the whole, it is most probable that the atmosphere is the medium in diffusing the virus, and that modifications result not only from changes in this medium, but from the endemic influences of particular localities. There is, indeed, a close relation between epidemics and endemics, most of the wide-spreading diseases having the character of endemico-epidemics, the latter being grafted on the former as the parent stock. This fact did not escape the notice of that sage observer, Hippocrates, who, speaking of the diseases dependent on the nature of soil, remarks, that if any epidemic should arise, they will have sufficient influence to impress upon it their peculiar character. Destructive epidemics occur most frequently and most violently in low situations and crowded cities,—a fact which was most strikingly observed, in all countries, as respects epidemic cholera; and in the now prevailing influenza, in this city, its universal prevalence is doubtless due to the same endemic influences.

The proofs of a specific virus, as the source of the disease, will be still further illustrated in the consideration of its symptoms.

Symptoms.—This epidemic, like all others, has, at every period, maintained certain prominent characteristics of its identity; and, like others, it has also, in its different visitations, exhibited some diversity of symptoms, according to the season of the year, the endemic character of the locality, the constitution of the individual, as well as the general epidemic constitution, which last, by the way, is a phrase that merely wraps ignorance in the garb of scientific language.

In the Cyclopædia of Practical Medicine, the following symptoms are given, by which the ordinary course of the disease has been marked:

> "It usually commenced with slight chills, amounting somtimes to shiverings, and alternate flushings of heat, with languor and sense of extreme weariness: then soreness over the eyes, or pain in the course of the frontal sinuses: these were quickly followed by frequent sneezing, a copious discharge of lymph, or thin, clear fluid from the nose and eyes, sometimes so acrid as to excoriate the upper lip; heat and soreness in the top of the larynx and œsophagus, and along the course of the windpipe, with hoarseness and dry cough; sense of stricture in the chest and difficulty of breathing, sometimes attended with darting pain in the muscles subservient to respiration; weight and anxiety about the præcordia; flying pains in the back, knees, calves of the legs, and various parts of the body; depression of spirits, and sudden and extraordinary prostration of strength. The tongue was mostly covered, at an early period of the complaint, with extremely white mucus, like cream—a symptom particularly noticed by Huxham, Baker, Petit, and others: there was loss of appetite, the thirst was inconsiderable, and the pulse generally quick, weak, and soft."

The more severe cases are marked by a decided rigor, alternating with heat and flushing of skin; and the fever, which has an evening exacerbation, may continue from two to fourteen days. These symptoms correspond so entirely with those of the present epidemic, that every patient will at once recognize his own case; and in this visitation, as has been observed in all preceding ones, one of the most characteristic phenomena has been the persistance of cough and debility, for weeks after the cessation of the other symptoms. In the present epidemic, the duration of an attack is from a day or two to a week or fortnight; but in the majority of cases, a critical sweat, attended with free expectoration, appears on the third day, with a banishment of the fever on the fifth. Debility and vertigo have always been observed as among the most remarkable features of influenza; and these two symptoms have been very marked in the present visitation. We have seen some patients, who, even in the state of convalescence, could not rise from the horizontal posture without a tendency to sudden fainting. But there will necessarily be many complications of disease in this epidemic, dependent partly on atmospheric conditions, and partly on the predispositions of the individuals affected; and of these complications, the most frequent and important are, inflammation of the bronchial tubes, lungs, and pleura, or of the brain and its membranes, neuralgia, cutaneous eruptions, and acute articular rheumatism or merely sharp flying pains. These various results have doubtless been observed by every physician in the present epidemic. In some, the leading complication is cynanche tonsillaris; in others, it is bronchial, attended with difficult and oppressed respiration, which, in very old and debilitated subjects, presents the character of a suffocative catarrh; in a third class, the disease falls more particularly upon the mucous membrane of the stomach and bowels, indicated by diarrhœa, mucous evacuations, and sometimes abdominal tenderness; in a fourth class, the complication is decidedly cerebral, characterized by vertigo, delirium, and erysipelatous eruption on the face; others, again, will have the rheumatic or neuralgic complication; and, lastly, there is a typhoid form, marked by extreme prostration of strength, great weakness of pulse, and other symptoms of adynamic fever, but this last fortunately rarely occurs, being almost exclusively confined to the poor and badly nourished.

The sedative influence of the disorder is truly remarkable, testified in the graver cases by a sudden and often extreme depression of the vital powers; and this depression, in many cases, extends in a remarkable manner to the whole nervous system, impairing the mental functions and feelings in a degree not inferior to the corporeal derangements. Upon whatever tissue the impression may be made, the same generic character and type, as indicated by the adynamic state of the system, are evinced. The mucous membrane lining the respiratory passages is no doubt the texture primarily, perhaps chiefly, affected; but, in a more advanced stage, or in consequence of a more active virus, or of a difference of corporeal predisposition, the lining membrane of the œsophagus, extending even to the stomach, may become affected, causing that peculiar distress about the præcordia which sometimes attends eruptive diseases, before translation to the skin has occurred; and this symptom, in consequence, at the same time, of the more general implication of the lungs, is accompanied by large mucous secretions, cough, and laborious perspiration.

"The state of the tongue and fauces," says Dr. Holland,—"the frequent occurrence of angina, with a peculiar kind of dusky efflorescence rather than any considerable swelling,—the sense of heat or excoriation passing down the œsophagus into the stomach,—are other symptoms indicating the direct effect on these membranes, not less certainly than on those of the respiratory passages. And a like inference may be drawn from the eruption or efflorescence on the skin frequently attending the complaint; such symptoms, as well as the *herpes labialis*, being a very common index of translation of irritation from the internal membranes to the surface."

One of the most important considerations connected with this epidemic, is, the increased liability which it often induces, for years, to rheumatic and neuralgic affections, to chronic bronchitis, &c.; bu this fact will be again noticed under the head of *sequelæ*.

Prognosis and Ratio of Mortality.—Although uncomplicated influenza rarely destroys life, yet the ratio of fatality, as previously remarked, as deduced by Ozanam from a calculation of the mortality of all the recorded accounts of epidemic catarrh, is not less than two per cent. of those attacked,—a ratio found to be the same in England in the epidemic of 1836-7. In the present epidemic, one would not suppose, from a superficial view of the question, that the mortality in this city, including all attacks, can possibly be higher than one per thousand cases; for, supposing two hundred thousand persons to have experienced the disease, it would require two hundred deaths to produce this per centum. The mortality of two per cent., doubtless, is derived from such cases only as came under medical treatment. It will not, however, prove impossible to show, from the "Weekly Reports of Interments in the City and County of New York," that two hundred persons, aye, even one thousand, shall, in the course of six or twelve months, be numbered among the victims of the present epidemic. For the six weeks preceding the first of July, we find the totals of mortality as follows: one hundred and eleven, one hundred and nine, one hundred and six, one hundred and eight, one hundred and seventy-eight, two hundred and twenty-three. We thus perceive, during the two weeks of the prevalence of the epidemic, a most extraordinary increase in the ratio of mortality, the last week exhibiting an augmentation of one hundred per cent.; yet, strange as it may appear at first view, not more than nine deaths from influenza are reported in the week ending with the first of July, and four from the same cause in the week preceding. This apparent discrepancy admits, however, of the most ready explanation, when we bear in mind the fact, taught us by the history of all earlier catarrhal epidemics, that, *in those who have died while suffering from the malady, anatomical examinations generally reveal some associated disease; for example, the chief victims have always been found among the aged and asthmatic, those susceptible to disease of the lungs, and of full, oppressed habits.* First then, as regards *old age*, it is found that *nineteen* deaths are reported from this cause during the *two* weeks of the epidemic, while but *three* deaths from the same cause occurred during the *four* preceding weeks. Moreover, in the last week, five deaths are registered under the head of "debility,"—a term, by the way, which physicians, in the present advanced state of pathology, ought, in view of its complete indefiniteness, to endeavor to expunge wholly from the bill of mortality. Now the annual ratio of mortality from "old age," and "debility," does not, in either case, give more than two deaths per week; and besides, it must be borne in mind, in making annual averages, that June is, in New York, the healthiest month of the year; thus, upon an average of two years June has a total mortality of only five hundred and forty-three, while that of August is as high as eight hundred and ninety-eight. Before proceeding farther, we will here state that as both the beginning and end of this Article, at the present writing, are in the hands of the compositor, all extensive calculations, in the way of the averages of many years, are, of course, precluded; and we would add, as regards the whole Article, that it has been necessary to compose it *calamo currente.*

Next, as regards *diseases of the lungs*, it is found that *consumption*, which, it will be seen in the sequel, has been much influenced by all preceding epidemic influenzas, gives the following weekly ratios, receding from the 1st of July: forty, thirty-seven, twenty-six, twenty-one, twenty-seven, twenty-seven; but the effects of influenza, thus displayed, it is obvions, instead of being *immediate*, must follow as the sequelæ of months and years. The weekly ratio of deaths from this cause, on the annual average, may be estimated at twenty-five.

From *inflammation of the lungs*, including all the thoracic viscera, as might be expected, an increased mortality has likewise followed. Tracing back the six last weeks, the ratios of inflammation of the lungs stand twenty-one, thirteen, twelve, five, fourteen, nine, while the weekly average, computed for the year, is eleven; but it is to be recollected that this disease prevails least in the summer season, the ratio of June, in ordinary seasons, being no more than six per week. From inflammation of the "throat," there is also an augmentation, the deaths during the last two weeks being three, and but one during the four preceding weeks. The same is true as respects *organic disease of the heart*, there being ten deaths from this cause registered in the last two weeks, and only eight during the four weeks preceding.

As much of the force of the epidemic is spent upon the *brain*, we are not disappointed in finding a higher ratio of mortality from *inflammation of this organ.* Thus the last two weeks give eighteen deaths from this cause, while the prior four give but fourteen, the weekly annual average being only five.

From *diarrhœa, dysentery, and fevers in general*, the mortality of the last two weeks is perhaps double the usual ratio. From *inflammation of the bowels*, seventeen deaths are reported during the last two weeks, and only nine during the previous four weeks; and as regards *inflammation of the stomach*, these same ratios stand five to one. That the present epidemic has caused much *rheumatic* disorder, is well known; but as death seldom results from this disease when uncomplicated, the bills of mortality can throw no light upon its connection with influenza. From *cholera infantum*, ten deaths were reported in the week ending with July first, and two deaths in the preceding week, being the first reported this season. Such affections as "convulsions," "dropsy in the head," etc., have experienced no change in their averages.

When death has followed from simple influenza, the chief pathological appearances revealed are the following: A deep red color pervades the mucous membrane of the larynx and bronchi, the trachea is found injected and covered with glassy-looking mucus, and flakes of lymph are sometimes observed in the ventricles and on the chordæ vocales;

while a serous and mucous fluid surcharges the lungs generally, portions of their lower lobes being engorged, and sometimes consolidated. In violent cases of influenza, the danger seems to arise from a deficient arterialisation of the blood, in consequence of an excess of mucus; but as the difficulty of respiration appears to be generally out of all proportion to the quantity of secretion and degree of inflammation, it has been inferred that the cause of the disease produces primarily an impression on the vital energy of the lungs, analogous to that resulting from a section of the nervus vagus.

Treatment.—Making due allowance for the diversity of character exhibited by this epidemic in its various visitations, modified, as it necessarily must have been, not only in the degrees of their intensity, but by season, climate, and epidemic constitution, it is surprising to see how remarkably physicians of eminence agree in their testimony, as to the general rules and principles of their practice.

As regards blood-letting, it seems to be admitted on every hand, that it could rarely be employed with safety, much less with benefit, on account of the weakness of the pulse and the alarming prostration of strength. Reference has already been made to the two thousand persons who, in 1557, died in the small town of Mantua Carpentaria, in Spain, after venesection; and in Rome, in 1580, the death of an equal number of persons is ascribed to the same cause by Sennertus, who adds that when it was omitted, the mortality was not greater than one per thousand. At Edinburgh, in 1733 and 1782, it was noticed that those who were bled, "recovered more slowly." In France, in the influenza of 1733, 1775, and 1803, blood-letting was generally injurious. At Exeter, in 1775, Dr. Glass reports that venesection "weakened the patient without relieving the pain;" and by Dr. Ash it was considered that "it was never necessary to bleed at Birmingham; that in a neighboring town three died who were bled, and all recovered who were not bled." In 1782, from the accounts transmitted to a "Society of Physicians," the inference is drawn by Dr. Gray, "that blood-letting was by no means conducive to the general cure of the disease." In 1833, in England, according to the *Trans. of Prov. Med. Assoc.*, the removal of a small quantity of blood produced syncope, which sometimes occurred spontaneously.

But notwithstanding these authorities, there occur instances in every visitation of influenza, in which this remedy is useful, as when complicated with pneumonia, pleuritis, and pericarditis. At the same time, however, it may be well to bear in mind, that inflammation, associated with influenza, as a general rule, should be treated less actively than when uncombined. In the complication of pneumonia, for example, it is recommended to use the measure with the same caution as in the pneumonia of typhus. Whatever tissue may be the seat of the irritation, it is certain that it has rarely the characters of true membranous inflammation. It is also generally agreed that opiates, at the onset of the disease, almost invariably acted unfavorably,—increasing the febrile excitement, aggravating the pain in the head, so as sometimes even to produce delirium, checking the expectoration and augmenting the constriction of the chest; but in the decline of the disease, these remedies seldom fail to prove salutary.

Without attempting to reduce a plan of treatment to a systematic form, which is precluded by the diversity of modifications in which the disease is presented, we will merely speak of the management adapted to the three stages of its commencement, its progress, and its decline. The phases of the same disease among one hundred individuals are not less various than the features of their countenances.

In the slighter manifestations of the malady, the mildest treatment, if any is resorted to, will suffice, a careful regulation of the diet being often alone adequate. In severe cases, the treatment is begun by some with emetics, which tend to relieve the sufferings of the head and chest; and this, they follow with gentle aperients and antimonials, or saline medicines, by which the fever is mitigated and a salutary diaphoresis promoted. Dr. Holland condemns the use both of sudorific and expectorant medicines in the treatment of this disease, as he has never known any certain benefit to follow their administration,—an opinion in which we cannot wholly concur; but, as regards emetics, he is decidedly of opinion that they are the best remedial means at the beginning of the disease, as well as under different conditions of its progress. An active emetic in the earlier stage of the symptoms, has even been supposed to have arrested the disease in the outset. This inference, founded on cases in which the symptoms speedily disappeared, is, however, extremely problematical; for we certainly see such cases occurring, whether due to different states of the virus or to the peculiar constitution of the individual, when no medicines at all have been employed. We have, in fact, here, a disease arising from a specific cause, without, unfortunately, a specific remedy. We cannot even assert, positively, that we can, under any circumstances, cut short the period of its duration. In the present state of our knowledge, we can do no more than direct our efforts to the mitigation of such symptoms as may be in excess; and thus, by promoting, at the same time, a normal state of the natural excretions, we may prevent injury to any particular tissue or organ. In thus defining the exact scope of our power, the judicious physician will at once see the importance of avoiding the officiousness of too much interference with the course of the disease; for this disorder presents, no doubt, a definite course of morbid actions, as the result of a specific virus, for which we know neither a specific antidote, nor, unlike the case of small pox, a specific prophylactic.

Generally speaking, it is best to commence the treatment with calomel and compound extract of colocynth, followed by a saline purgative; for, in nearly all cases, in the present epidemic, there is more or less derangement of the chylopoetic viscera; and even should there be no such indications, these measures will obviate congestion, and diminish the liability to local inflammation. Should intestinal irritation in some degree be present, mercury in a milder form, as blue mass, combined with an anodyne extract, may be employed, to be followed by castor oil. Should the case be sufficiently severe to require the confinement of the patient to bed, mild diaphoretics, as the acetate of ammonia, should now be administered; and this may be combined with ipecacuanha as an expectorant, or with antimonial wine, in the event of bronchial irritation. If there is much pain of the frontal sinuses or distressing cerebral symptoms, a few leeches applied to the Schneiderian membrane often afford decided relief. If the cough is unattended with expectoration, ipecacuanha, in combination with oxymel of squills, may be prescribed; or should the cough be convulsive, as sometimes occurs, hydrocyanic acid will often be peculiarly serviceable. But in these cases, the general experience of the practitioner will be a sufficient guide. During the stage of its decline, should the secretion of the mucous membrane of the bronchi be in a morbid condition, copaiba will be found highly useful; and, in cases requiring a more stimulating expectorant, as when attended with viscid phlegm, especially in the old, the solution of gum ammoniac combined with oxymel of squills, has often been used with the happiest effect. If, in these later periods, restlessness at night be distressing, anodynes will be useful; but even in this stage, some caution us against the premature use of opium, as calculated to check secretion. It is safe, however, now to venture upon henbane and morphia. Sometimes inordinate secretion from the bronchial tubes occurs, when the acetate of lead often proves remarkably efficacious. If recovery should be tedious and the strength be much impaired, with a febrile condition, more especially if of an intermittent character, some bitter infusion, or quinine itself, even long before the cough is removed, becomes an eligible remedy. The value of quinine is here unquestionable, not only as a tonic, but in view of its specific power of arresting intermittent actions, to which there is a decided tendency in this disease, as will be more fully noticed.

As regards purgatives, it may be added, that frequent and violent action of this kind has always been found positively injurious in these epidemics, as tending to increase irritation and depress the general powers; but their proper use, as mentioned above, as well as to prevent the accumulation of disordered secretions, is indispensable. This remedy, especially mercurials, finds a happy application in those slighter cases characterized by disturbance in the functions of the liver and stomach, which necessarily follows when the individual, as often occurs, labors for weeks under the influence of the morbid cause, without being actually compelled to withdraw from his ordinary pursuits.

Sequelæ.—Reference has already been made to the tendency of this disease to change the condition and augment the susceptibility to disordered action of the mucous membranes and of the nervous system. These sequelæ have, in many instances, been more dangerous than the primary malady; and what is singular, these subsequent affections often bear no relation, as regards their severity or danger, to the violence of the epidemic seizure. As the tissue upon which the force of the disease is chiefly expended remains peculiarly susceptible of derangement, a liability to chronic bronchitis and asthmatic affections, to rheumatic and neuralgic disorders, and to intestinal irritation, often continues for years; and besides, it has been observed that this class of patients are less tolerant of active remedies. These neuralgic intermittent pains are often as regular in their periods as those of common ague, taking sometimes the tertian or perhaps the quotidian type. Moreover, there is indisputable evidence that phthisis, in individuals of a tubercular constitution, may also thus be called into activity. From an extensive observation of its pathology and treatment, during the epidemics of 1833 and 1837, in England, Dr. Copland* says that *tubercular consumption*, when the predisposition already existed, or when the tubercles were in a latent, undeveloped, or crude state, was not unfrequently called into existence. *Chronic bronchitis*, proving obstinate, and requiring a restorative treatment and regimen, with change of air, was also not unusual. *Asthmatic affections* of a nervous, spasmodic, or convulsive character, with bronchial congestion or irritation, and sometimes with considerable bronchial discharge, he also encountered occasionally in persons advanced in life. Various lesions of the heart, as *endocarditis* and *pericarditis*, were also observed as sequelæ of influenza. *Hæmorrhage* from the respiratory organs, and *dropsies*, especially of the thoracic cavities, were occasionally met with; but *obstinate dyspepsia*, and other *functional disorders of the digestive organs*, as well as *rheumatism*, were very common consequences of the epidemic.

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* Dictionary of Practical Medicine.

Even in those cases in which no particular disease supervenes, it is often a considerable time before the mind and body recover their ordinary energy, as is evinced in the circumstance, that fatigue is very easily produced; and, in this state, the treatment recommended is simplicity of diet, change of air, and the shower bath; in a word, the general adoption of a mildly tonic plan, as well as a diminution both of intellectual and corporeal labor.

Connection with other Epidemics.—It is remarked by Noah Webster, LL.D., in the work already cited, that influenza is the disease most clearly connected with pestilence in the form of malignant angina, dysentery, yellow fever, and plague, which it usually precedes; and this observation, which seems strange at first view, is confirmed by subsequent experience. An example in point is the very severe dysentery, as described by Sir G. Baker, which prevailed in London immediately after the influenza of 1762. Many writers have, indeed, noticed this connection between epidemic dysenteries and pestilential diseases, especially in the case of epidemic influenzas; and hooping-cough among children, as observed, for instance, by Holland, in the influenza of 1831, in England, has been also found singularly concurrent with many epidemics. The same remark applies equally to infantile remittent fever, in its various forms; and in such close concurrence with influenzas has it frequently prevailed, that a nearer relation than mere coincidence of time, is certainly warranted. As regards scarlatina and measles, Dr. Holland remarks that he has repeatedly observed them to be unusually frequent during the seasons in which influenza had prevailed in a severe and general epidemic; and as respects puerperal fever and erysipelas, (both of which are now admitted by many to become contagious under certain circumstances of type, season, or locality,) there is reason to believe that both have an increased tendency to prevail when epidemic influenza is rife. Dr. Holland says that this was well attested in respect to the puerperal fever in the spring of 1838. Again, the epidemic cholera was preceded, in 1831, by influenza, in Italy, France, England, and other countries, and subsequently also in the United States.

It is thus seen that epidemic influenza lays open to us a large field of practical inquiry, not only in relation to its own peculiar nature, but in its connections with other diseases. But this branch of medical science is still involved in much obscurity; and it is only by taking enlarged views of the phenomena of epidemics in different countries, that we can hope to arrive at any generalizations. There is perhaps some foundation for the opinion that too exclusive attention has hitherto been given to the eruptive stage of the contagious exanthemata, thus withdrawing us from other methods of investigation which might lead to more expanded knowledge. And here we cannot refrain from making another quotation from Dr. Holland, whom we regard as a very original thinker:

> "It will probably be one of the most certain results of future inquiry to associate together, by the connection of causes of common kind, diseases now regarded as wholly distinct in their nature, and arranged as such in our systems of nosology. This remark applies very widely throughout all the genera of diseases; but in no instance so singularly as to some of the disorders of a contagious or epidemic kind; as, scarlatina, measles, hooping-cough, erysipelas, the infantile fever, dysentery, epidemic catarrh or influenza, etc. Without affirming the *materies morbi* to be the same in any two of these disorders,—presuming it to be different in most of them,—and admitting the diversity of the symptoms,—yet relations there probably are, closer and more peculiar than any which have yet been ascertained, or made the basis of classification. And these are, without doubt, some of the most interesting objects of pathological research."

Art. VII.—*The British Army Medical Statistics in reference to the Question—Is it likely that any beneficial Influence can be exerted by Climate itself in Pulmonary Diseases?*—By the Editor.

Since the days of Hippocrates it has been a generally, indeed universally, admitted opinion that change of climate is beneficial in many forms of pulmonary diseases; but recently it has been deduced from the "Statistical Reports on the Sickness, Mortality, and Invaliding," among the British troops in every quarter of the globe, that it is "*by no means likely that any beneficial influence can be exerted by climate itself*" in these affections. Upon the strength of these statistics, the opinion that it is worse than useless to visit milder climates in pulmonic complaints, was at once very generally embraced by the medical journals of the day; and of so much general importance was the question deemed, and very justly too, that it became even the wide-spread subject of newspaper paragraphs. Thus it was observed, in an article in the *Medico-Chirurgical Review*, that these Military Reports

> "*have given the death-blow to the expatriation of invalids affected with pulmonary alterations.* They serve also to show us the salubrity of our calumniated climate, and to lower our aspirations for that 'sweet south,' whose sunny skies and luxuriant plains too commonly smile but to betray. Statistics dispel those illusions of poesy, and even prove that consumption, the reproach of our fickle seasons, lurks as fatally in the balmy Italian zephyr, or the sultry tropical breeze."

Now, in introducing this subject here, we have two objects in view. The *first* is to show the indisputable fallacy of the deduction of the British army statistics relative to pulmonary diseases and the influence of climate,—a question in which we are fully sustained by Sir James Clark and John Davy, Esq. We believe that we were the first to combat these conclusions, in an article in the American Journal of the Medical Sciences for January, 1841;* and these views we enforced with additional arguments subsequently, in our work on "The Climate of the United States and its Endemic Influences." The *second* object is to show that, in a review of our article in the American Journal of Medical Sciences, by the British and Foreign Medical Review, (April, 1842,) twelve pages having been devoted to the futile attempt of demolishing our humble article of forty-two pages, we were not, by any means, fairly represented.

It is not intended here to enter into a detail of the various subjects connected with this question. Let it suffice to present the concluding remarks of our review of the British army statistics, in the American Journal of the Medical Sciences:

> "It is thus seen that the conclusion of the reporter, that the class of pulmonary diseases is more prevalent and fatal in southern than northern latitudes, is the result of hasty generalization, or rather that it has arisen from a classification of climates on mere latitude without reference to the phenomena of temperature induced by local causes. Although the reporter has, in some measure, set the world right in regard to a *theoretical* error, he has unfortunately, at the same time, led it into a *practical* one. His first error was assuming the climate of England as the standard of comparison—the second, comparing the *lowest* average in one command with the *highest* in another—and the third, basing his deductions on the *annual* results without reference to the relative influence of the *seasons*. We have devoted the more attention to this subject in consideration of its importance to the pulmonary invalid, and from the conviction that the evil influence of false doctrines bears a direct ratio to the character of the authority whence it emanates."

The concluding remarks, on the other hand, of the British and Foreign Medical Review, were in the following words:

> "It would have been well for Dr. Forry to have made himself aware of all such particulars, before he assumed the part of a critic on the admirable statistics of the British army; had this been the case, he would have saved much of the valuable time which he has thrown away in searching for errors in the works of others, which, devoted to his own, would have rendered it of more value to medical and statistical science."

Under these circumstances, it is not a little gratifying to find that our views have since been fully sustained by such distinguished authorities as Sir James Clark and John Davy, Esq., the latter having for years superintended the medical concerns of Malta, in his capacity of Inspector-General of Army Hospitals.

The former of these writers observes:

> "The undue confidence in the powers of climate as a remedy in consumption, which has so long prevailed in this country, is now in danger of giving place to the opposite and equally erroneous extreme of total distrust. This is, chiefly, in consequence of the statistical reports on the health of our troops in almost

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* Statistical Researches relative to the Etiology of Pulmonary and Rheumatic Diseases, illustrating the application of the laws of Climate to the science of Medicine; based on the records of the Medical Department and Adjutant General's Office. By Samuel Forry, M. D., Medical Staff, U. S. A.

all quarters of the globe, showing that there is no immunity from this disease in any climate. · · · · · But as regards the influence of change of climate in the prevention and even cure of disease, *the information contained in these reports does not diminish our hopes of benefit from a temporary change of climate, or even from a more permanent residence when the climate suited to the individual case is selected, and all other necessary precautions adopted.* · · · I had the satisfaction to find that Dr. Davy's views, [having examined his work in manuscript,] regarding the Mediterranean climate are in perfect accordance with my own." *

But it is the researches of Dr. Davy particularly upon which we rely. The conclusion at which he arrives from various statistical facts, and an ingenious train of reasoning upon the attending circumstances,—a knowledge the acquisition of which was especially favored by his official situation in the Mediterranean,—is as follows:

> "As the statistical facts show that pulmonary complaints are more fatal amongst our troops serving at home than in the Mediterranean, and as all the circumstances, independent of climate, so far as I am acquainted with them, affecting the question, appear to be in favor of the troops serving at home, especially the cavalry, I am not only *not able to adopt the opinion referred to, that the climate of the Mediterranean is more productive of diseases of the chest than our own climate, but am obliged to fall back on the old and hitherto generally received opinion of an opposite nature.*" †—p. 293.

In confirmation of our statement made above, did we deem it necessary, it were easy to show, by following Dr. Davy in his details, that no reliance whatever is to be placed upon the deductions of Major Tulloch, the reporter of the British army statistics, in reference to the climate of the Mediterranean relative to pulmonary diseases. Let us illustrate this by a single point, and show, at the same time, the labored attempt of the British and Foreign Medical Review to invalidate our objections.

In speaking of the comparative liability of the natives of these southern regions to pulmonary complaints, especially phthisis, Major Tulloch remarks:—"*Nor is the fatal influence of disease of the lungs* [*in Malta*], *confined to the troops alone; it extends, in a corresponding degree, to the inhabitants.*" Upon this deduction, we thus animadverted:

> "As this result is wholly unwarranted, it again becomes necessary to expose the fallacy of his deductions. The average population is 100,270, and the tabular abstract extends over a period of thirteen years. From diseases of the lungs, the aggregate of deaths is 6664, among which are reported 1363 of phthisis pulmonalis, and 2786 of consumption. The annual ratio of deaths from this class of diseases among all ages, is, therefore, about 5⅛ per 1000 of the population. This ratio then, according to the reporter's own calculation, is only half as high as in England; but it will be observed that deaths are reported by the Maltese medical practitioners under the different heads of consumption and phthisis pulmonalis. 'The former,' the reporter says, 'is understood

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* The Sanative Influence of Climate, etc. By Sir James Clark, Bart., M.D., F. R. S., Physician in Ordinary to the Queen and to the Prince Albert.

† Notes and Observations on the Ionian Islands and Malta: with some remarks on Constantinople and Turkey, and on the System of Qnarantine as at present conducted. By John Davy, M.D., F. R. SS. L. and E., Inspector-General of Army Hospitals, L. R.

principally to refer to that class of consumptive cases more generally designated as *marasmus*, which term has been adopted in the returns since 1831. · · · They are understood to have occurred *principally among children and old persons*, and many of them may not have been directly attributable to diseases of the lungs, though, as we possess no means of distinguishing the *exceptions*, it has become necessary to include them under that class.' The *exceptions*, in this case, evidently constitute the rule. In his anxiety to establish his favorite views, the reporter is not content to include under the class of diseases of the lungs the cases of marasmus reported as consumption prior to 1831, but he also takes those *reported as marasmus* subsequently to that period. Excluding, therefore, the 2786 fatal cases of marasmus or consumption, which '*occurred principally among children and old persons*,' the ratio of mortality from hæmoptysis and phthisis pulmonalis is reduced to 1 1-10, (about one-eighth of the average in England), and that from all diseases of the lungs, to 3 per 1000. The fatality of pleuritis and pneumonia is not half as great as among the troops. It is thus seen that the mortality from all diseases of the lungs among the civil population, contrary to the deduction of the reporter, that it is in a 'corresponding degree,' is not half as high as among the troops, and not one-third as great as the average of the several commands in the United Kingdom. But as truth, it is said, never lies in extreme, so it may be well to take the ratio of hæmoptysis and phthisis pulmonalis, including *one-half* of the cases of marasmus. By this computation, the ratio is 2 2-10, which is much lower than among the military, and only one-fourth of the average in England. These results find corroboration in the fact that among the 'Malta Fencibles,' —a corps composed entirely of natives,—the annual ratio of mortality from all causes is only 9 per 1000, being less than half as high as that of the foreign troops."

Now, hear the comments of the British and Foreign Medical Review upon these strictures:

"Dr. Forry seems to think that a deduction should have been made of the deaths among children and old persons from marasmus, previous to drawing any conclusions as to the prevalence of consumption in that Island, forgetting that even had it been practicable to make that separation, which it was not, it would have been necessary also, previous to drawing any conclusions, to separate from the strength the number of children and old persons who are liable to marasmus, and not to the more decided forms of consumption. This would have reduced the strength of the population about one-half, and *instead of diminishing the ratio of mortality by the latter disease, would absolutely have increased it* beyond what it was estimated at, in the British Statistical Reports."

We scarcely know in what terms to speak of this paragraph; for, as regards its logic, we can make neither head nor tail of it. Governed by the time-worn maxim of caution, "*in medio tutissimus ibis*," we were content to throw off one-half of the cases reported as "marasmus;" but with Dr. Davy, they have all gone by the board, and not without good reason. As Dr. D. was President of the Medical Committee of Malta, and thus superintended the medical concerns of the Island, his attention was directed to the monthly returns of mortality; and seeing the misconception to which the term "consumption," in the sense used above, was liable, he substituted in 1831, the term "marasmus." But Major Tulloch, as just seen, was not content to include under the class of diseases of the lungs, the cases of marasmus reported as consumption prior to 1831, but he also took in those *reported as marasmus* subsequently to that period. This mooted point now, however, admits of final decision, the following extract from Davy's work giving a fatal blow, both to the British Army Statistics and the British and Foreign Medical Review; while, at the same time, it *more* than sustains our original objections:

> "From my professional knowledge of Malta and of all its medical concerns," says Dr. Davy, "I have no hesitation in saying, that in the statement I believe Major Tulloch has greatly overrated the proportion of deaths from pulmonary diseases. He has, no doubt, been misled by the term consumption: as used by the native practitioners, it was commonly employed to express marasmus, or wasting and loss of strength, without cough and other pectoral symptoms: and consequently the whole number, so returned, amounting to 2786, require to be deducted from the total, 6664, reducing it thereby to 3878, which, instead of being in the ratio of five and an eighth per 1000, is a little less than 3 per 1000, namely, 298."

In order to give a correct idea of the fatality of pulmonary diseases in Malta, Dr. Davy formed a table based upon the new form of reporting diseases; and the result shows the entire fallacy of Major Tulloch's deductions upon this point.

> "After giving the subject all the consideration in my power," he says, "the inference in relation to the native population appears to me unavoidable, that they suffer comparatively little from pulmonary diseases, and especially from pulmonary consumption, very much less than our troops in that island, and also than the civil population of Great Britain."

Now, Major Tulloch had arrived at the following erroneous conclusion:—

> "Here, then, we find that inflammatory affections of the lungs are nearly twice as prevalent in the Mediterranean as among the same number of troops in the United Kingdom, and that in the mild climate of Malta they are also twice as fatal."

Quite satisfied to submit this question to the judgment of the reader, we will now proceed to the brief consideration of another. In respect to the deductions of the British army statistics relative to pulmonary diseases, we raised the objection that they were based upon the *annual* results without reference to the relative influence of the *seasons.* This was the true point at issue; but it was most carefully avoided by the writer in the British and Foreign Medical Review, by whom the whole question was restricted to the annual results. We showed by tabular extracts that pulmonary diseases, with the exception of catarrhal affections, presented a higher ratio in the middle division of the United States than either in the northern or southern; and the British Review, in order to be enabled to confirm the deduction of their own army statistics, viz., that pulmonary diseases are more prevalent in southern, than more northern regions, has altered the arrangement of our tables; and by adding the middle division, which gives the highest ratios, with the southern, and then contrasting this average with that of the northern division, he triumphantly adduces the result as confirming that of the British army statistics!

> "One of the most important and perhaps the most startling of the deductions drawn from the Statistical Reports of the British Army," says the British reviewer, "was the greater frequency of phthisis pulmonalis in the tropical regions of the west, than in our own cold, variable, and much-abused climate,

or even in the still more inclement regions of Canada. Now, on referring to the influence of climate on this disease in the United States army, as shown in Dr. Forry's abstract, results precisely similar are obtained."

Now, no one acquainted with the general laws of climate would, for a moment, think of classing our middle States among the mild climates of southern latitudes, since the parallels in Europe which yield the olive and the orange, are with us productive of ice and snow. The Delaware, which is in the latitude of Madrid and Naples, is generally frozen over five or six weeks each winter; and even the Potomac becomes so much obstructed by ice that all communication with the District of Columbia is thus suspended for weeks. Hence the alteration in our tables to subserve a particular purpose, was wholly unwarranted.

There is perhaps no very striking difference as regards the prevalence of *tubercular* phthisis in any part of the United States. This affection of the lungs is no doubt much less under the influence of climatic causes than other forms of phthisis, as well as pleuritis, pneumonia, and catarrh. In Cowan's additions to Louis on Phthisis, it is asserted that, in England, "those who are *least* exposed to its influence, are precisely those *most* exposed to the vicissitudes of the climate." The agency of climate in the production of phthisis is no doubt secondary to the action of other causes, as, for example, occupation, food, and habits; and that the influence of this cause has been much exaggerated or much too exclusively considered, is further apparent from the fact, that the most variable climates are best adapted for the development of the various mental and bodily powers. In Laennec's work, edited by M. Andral, it is said that phthisis is much more frequent in the temperate regions of Europe, comprised between the fifty-fifth and the forty-fifth degree of latitude, than it is further to the north; and this position is sustained by various comparisons. In Sweden, for example, the ratio of mortality caused by pulmonary phthisis is estimated at only sixty-three per thousand deaths, while in London it is calculated to be not less than two hundred and thirty-six. We also maintained that, in the middle regions of the United States, characterized by great extremes in the seasons of summer and winter, pulmonary phthisis is most predominant, and that consequently a cold temperature is not essentially, *per se*, favorable to the development of phthisis pulmonalis. as well as pleuritis and pneumonia.

As regards the question of the relative influence of the seasons upon pulmonary diseases, the following are the conclusions at which we arrived, as deduced from the statistics of the United States army:

> "That catarrhal diseases, for example, are much under the influence of season and climate, is proved by the following statistical results: Taking the average of the United States, the ratio of winter is two and a half times higher than that of summer, and the ratio of the class of posts in our northern regions, remote from large bodies of water, is nearly four times as high as in the peninsula of East Florida. In the former class is Fort Snelling, whose difference in the mean temperature of summer and winter is 56°.60, and in the latter is Key West with a difference of only 11°.34. Even on the same parallels, we find the most marked contrasts. Thus on the coast of New England, where the extremes of temperature are modified, the ratio of catarrhal affections is comparatively low; on the lakes, characterized by similar climatic features, the ratio is somewhat higher; while in the excessive climate, in the same latitude, in positions remote from the ocean or the lakes, it is more than twice as high. The connection of these facts with *chronic bronchitis* invests them with more

than ordinary importance; for it is in that form of consumption which depends on chronic bronchial inflammation that we are justified in the expectation of deriving advantage from change of climate. Even admitting, with the reporter of the British statistics, that the ratio of pulmonary diseases is as high in southern as in northern latitudes, it does not militate against the doctrine that benefit will be derived from change of climate in the way of a *winter* residence; for in northern climes, one great object of the pulmonic invalid is to avoid the abrupt transitions of the seasons from summer to winter. On the coast of New England, for instance, the ratio of catarrh per 1000 [men] is in the third quarter of the year 36 [cases], and in the fourth 85; and consequently the respiratory organs, even when normal, are peculiarly susceptible, at this period, to morbid action; but if the pulmonic, at the approach of winter, seeks the climate of East Florida, he will find there, in the fourth quarter, a ratio even lower than that of the third quarter on the coast of New England."

It thus appears that in regard to the climate of the United States, the rule holds good that wherever the seasons are violently contrasted the ratio of catarrhal diseases is highest, decreasing in proportion as the difference between the mean temperature of summer and winter grows less; and that they are less dependent upon daily variations of temperature, combined with moisture, than upon its extreme range as connected with the seasons, as is proved by the fact that the sea-coast and the lakes do not give, on the same parallels, a ratio more than half as high as the dry and cold atmosphere of the opposite localities. The same laws have been established in relation to pleuritis and pneumonia, and, in some measure, to phthisis pulmonalis. In reference to the last, it will suffice to say, that its ratio seems to have no direct relation with the other diseases of this class; for, although much under the influence of season and climate, yet it is still more under the control of other agents. Chronic bronchitis, it is very probable, acknowledges the general law, while the deviation is caused by cases of a tubercular nature.

One more example, and we have done with this vexed question. Another objection made by us, was that the reporter of the British Army Statistics had assumed England as the *standard of comparison*, by which to prove that the class of pulmonary diseases is more prevalent and fatal in southern than in northern latitudes. He consequently adopted a classification of climates based on mere latitude without reference to the phenomena of temperature arising from a modification of physical geography; and, in the present instance, from the circumstance that pulmonary diseases, as a class, are peculiarly dependent on climatic characteristics, the impropriety of arranging climates by the mere test of latitudes is the more apparent. It is shown above, that catarrhal diseases, even on the *same* parallels, exhibit, in the more uniform climate of the lakes and the ocean, a ratio not more than half as high as in the opposite localities; and, consequently, as the range of the thermometer is not greater in England than in Italy, and as the difference between the mean temperature of summer and winter is actually less, a classification of climates based on mere latitude in reference to pulmonary diseases, becomes an actual absurdity. So great is the influence of local causes upon temperature, that at Edinburgh, Scotland, the difference between the mean temperature of winter and summer is only 17°.90, while on the same parallel at Moscow, Russia, it is 56°.32; and in North America, on a parallel twelve degrees farther south, we find this difference between the two seasons to be, at Fort Snelling 56°.60, and at Fort Vancouver, about one degree farther north, on the western coast of America, seventy miles from the Pacific, only 23° .67. Hence, if we find, far north, a mild insular climate, like that of England, its ratios of pulmonary diseases do not give, we maintain, a fair expression of the general laws pertaining to that latitude, as determined by observations made upon the same parallels of widely expanded continents.

Objection was made to England, as a standard of comparison, on the ground that as its climatic laws constitute an exception to the general laws of temperature belonging to those parallels, it could not possibly be a fair test of the question whether pulmonary diseases are more prevalent than in a region ten degrees farther south upon the continent of Europe, inasmuch as it has actually a milder climate than the latter situation. London, for example, has a climate, as regards the difference in the temperature of the successive seasons, as mild as that of St. Augustine, in Florida, notwithstanding the latter is 21° 41′ farther south —a remark that applies equally to Italy in an intermediate latitude. But this will be best represented in a tabular form, with the addition, by way of contrast, of a northern position in America.

		Difference of the successive seasons.			
	Lat.	Of winter and spring.	Of spring and summer	Of summer and autumn.	Of autumn and winter.
London,	51°31′	9°.64	13°.56	11°.00	12°.22
St. Augustine,	29°50′	9°.29	10°.80	9°.79	10°.30
Italy,	41° 54′	11°.53	16°.03	11°.33	16°.70
Fort Snelling, Iowa.	44°53′	30°.83	25°.97	25°.40	31°.40

In view of these facts, then, bearing also in mind that Fort Snelling, notwithstanding 6° 38′ farther south than London, has a difference of the successive seasons perhaps three times greater, it follows that mere latitude, taken as the basis of climate, cannot, as regards the influence of climate on pulmonary diseases, be a correct standard. But our reviewer, in the hope of maintaining the affirmative, resorted to the sophistry of adducing, in illustration, the instance of *fevers on the west coast of Africa*, where this class of diseases causes only the same extent of mortality among the native troops as among troops in England.

Now, there is not the least analogy between the two cases of pulmonary diseases and fevers, as applicable to the general principle. The question at issue was the agency of atmospheric laws in the production of pulmonary diseases, which are considered its *chief* causes; while, in regard to the fevers of the west coast of Africa, these causes compared with others are very subordinate.

In fine, all Major Tulloch's "*new* and *startling*" deductions relative to pulmonary diseases must now be considered to have been reversed; and we are, in the language of Dr. Davy, "*obliged to fall back on the old and hitherto generally received opinions*" We are wholly at a loss to perceive "*the interesting fact that, except the Ionian Islands, the liability of troops to consumption in the Mediterranean stations is even greater than in England;*" nor can we discover the "*striking contradiction to the popular idea,*" that it is "*by no means likely that any beneficial influence can be exerted by the climate itself*" in pulmonary diseases. To this it may be added, that the more recent statistical reports of Major Tulloch "On the sickness, mortality and invaliding among the troops in Western Africa, St. Helena, the Cape of Good Hope, and the Mauritius," afford no evidence corroborative of the reporter's favorite opinion that pulmonary diseases increase in proportion as warmer latitudes are approached. We are told that, "among 71,850 native troops serving in the Madras Presidency, the deaths by every description of disease of the lungs did not, on the average of five years, exceed *one per thousand* of the strength annually."

To adduce any further evidence of the fallacy of Major Tulloch's "new and startling" deductions, would be of course a work of supererogation; but, as the facts are highly interesting in themselves, we will here present certain statistical results of the French troops in Africa, which afford the most striking confirmation of our views. According to a paper read before the Academy of Medicine, at Paris, on the 4th of April last, there exists, in that region, a most singular exemption from pulmonary consumption. It appears from the African reports, addressed by the surgeons to the military board of health, that, among 40,341 patients who were carefully examined, only 62 labored under phthisis, giving a ratio of 1 to 650; and that the mortality from phthisis was only 1 death to 102 from all other diseases. Now when we consider that this ratio has been calculated from a large number of cases, and that the ordinary mortality of the French army from phthisis is 1 to every 5 deaths from other diseases, as determined by the researches of M. Bensiston de Châteauneuf, and besides that in Great Britain and Ireland, consumption causes, according to the bills of mortality, one-fourth part of all deaths that result from disease, it becomes still more clearly obvious that there exists not even the shadow of proof in favor of Major Tulloch's celebrated deduction,—a deduction for which the editor of the British and Foreign Medical Review "did battle" so valiantly against us.

As every editor, in the eyes of his readers, lays claim to infallibility, it is scarcely to be expected that the talented and learned conductor of the British and Foreign Medical Review will make the *amende honorable* in the present instance. But we ask—Is not the acknowledgment due to science? Is it not due to the cause of humanity? When men of such authority as Clark and Davy say that we are "*obliged to fall back on the old and hitherto generally received opinions*," not to speak of the injustice done ourselves by silence, we again ask—Does not further delay in apprising his numerous readers of the true state of this most important question, become, on the part of the editor of the British and Foreign Medical Review, an absolute dereliction of duty? To show the great necessity of such an announcement, it is quite sufficient to refer to a lecture, "delivered at St. Thomas' Hospital, on Wednesday, March 22, 1843, by George Gregory, M.D.," as reported both in the London Lancet and Provincial Medical Journal of April 1.

> "Among the many remarkable facts," he says, "which recent statistics have brought to light, is the prevalence of consumption in all parts of the world, the hottest as well as the coldest. Year after year has seen consumptive patients expatriating themselves to profit by the supposed immunity which tropical countries enjoy from the ravages of pulmonic decay! *Vain delusion!!*"

Seeing the very great importance of the question here discussed, our readers will not, we trust, deem the space devoted to the subject unworthy of it. It teaches one important lesson at least, which is that "*new and startling deductions*" in reference to opinions sanctioned since the days of Hippocrates, should not be hastily made.

PART SECOND.

Critical Analysis.

ART. VIII.—*Annual Report of the Interments in the City and County of New York, for the year* 1842, *with Remarks thereon, and a brief View of the Sanitory Condition of the City.—Presented to the Common Council by* JOHN H. GRISCOM, M. D., City Inspector.—Document No. 59. *Communication from the City Inspector, recommending a Reorganization of the Health Police.*—Document No. 111.

THESE are valuable documents, presented by the City Inspector to the Honorable the Common Council of the city of New York. The former consists of numerous elaborate tables, relative to the morbility and mortality of the city of New York, for the year 1842, "together with a brief view of the sanitory condition of the city, an exposition of some of the causes of its sickness and mortality, and the suggestion of a few remedial measures," the latter making fifty-four octavo pages, in the way of "Remarks." We hail this report with particular pleasure, not only on account of its intrinsic value, but as indicating the dawn of a brighter era, as regards the state of public opinion relative to the importance of medical knowledge, in connection with public hygiene. It shows, in language not to be misunderstood, that in the selection of an individual to fill this office, as well as several others in the gift of the Common Council, they ought to be influenced mainly by the medical qualifications of the applicants, and that having once found suitable incumbents, no change should be made on mere party considerations.

Prior to the appearance of these reports, no attempt, it would seem, was ever made to cultivate this fertile field of medical knowledge. It is only within a few years that a medical education has even been deemed a qualification necessary for the office. It was customary to present the annual bill of mortality, *alphabetically arranged*,—a labor for which any accountant having a smattering knowledge of medical terms, is competent. To Dr. Griscom's penultimate predecessor (Dr. Dunnel), however, is due the credit of putting the bill of mortality into an improved shape, and of making a very useful summary of all deaths since 1804, when the register dates its origin. Judging from the *official* history of New York, we might almost be warranted in the supposition, that inquiries into the effects of endemic influences and the sanitory condition of the inhabitants of towns, is something new; but we find that these subjects did not escape the observation even of the Father of Physic himself. In his book on air, water, and situation, he says that a man coming to a city a perfect stranger, should direct his attention to its situation, as regards the course of winds and the rising of the sun; he should consider the qualities of the water used, and also the nature of the locality, as respects elevation, or whether it be naked and dry, or woody and moist,—nor should he neglect inquiring into the modes of life of the inhabitants, whether they are given to exercise and labor, or to the dissipation of drinking, feasting, and idleness.

We shall lay before our readers the leading points presented in Dr. G.'s annual report; and first of

Consumption.—Somehow we have gotten into the habit of associating in our minds the ideas of phthisis and a changeable climate as inseparable; but experience, on the other hand, as remarked in a previous article, teaches us, in the words of Cowan, in his "Additions" to Louis on Phthisis, that "those who are *least* exposed to its influence, are precisely those *most* exposed to the vicissitudes of the climate." In England, for instance, the maximum of liability to phthisis, it has been satisfactorily determined, occurs among those who suffer the least exposure to climatic variations; and hence this influence must be regarded as subordinate to the action of other causes, as, for example, occupation, food, and habits. This deduction, which is certainly true as regards *tubercular* phthisis, is very fully confirmed by the facts exhibited in the following extracts:

"Of the 1,339 deaths by consumption, 719 only were of natives of the United States, while the great proportion of 600 were of foreign births. A very important inference relative to the liability of inhabitants of this city to this disease, is to be drawn from this fact. Frequent calculations have of late been made of the comparative obnoxiousness to it, of the citizens of Boston, Philadelphia, and New York. The last, made in Boston,* gives the following average of the deaths by consumption to the whole number of deaths:

In Boston, - - - -	1 in 6,185
In Philadelphia, - - -	1 in 7,003
In New York, - - -	1 in 5,547

"The returns of 1842, however, show the proportion here to be as above stated, 1 in 6,114; or, if we include the accidental deaths, only 1 in 6,329, which gives a proportion rather better than the average of Boston.

"It will not, it is presumed, be disputed, that New York contains a much larger proportion of inhabitants of foreign birth, than any other city in the United States; and this fact assumes, in connection with the mortality of the city, especially with the disease under consideration, a vital importance, as affecting its sanitory reputation.

"Here are congregated armies of foreigners, drawn from their homes by various causes, and mostly in search of a living, allured by the flattering expectations held out by a 'free country.' They bring with them destitution, misery, and too often disease, already taken root. If in good health when leaving home, the suffering, privation and close confinement incidental to the voyage, rarely fail to engender disease, especially fevers and diseases of the lungs,† from the effects of which they frequently never recover, and their broken constitutions

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"* Statistics of Pulmonary Consumption in the Cities of Boston, New York and Philadelphia, for 30 years, with Remarks, by George Hayward, M. D.—*N. E. Quart. Journ. Med. and Surg.*, *Jan.*, 1843.

"† The following extract from a communication from the Health Officer, Dr. Doane, presented to the Board of Health, February 1st, 1843, will illustrate and confirm these statements: "In the last three years, 3,193 patients have been received here (Quarantine.) Of these there have been 818 cases of typhus fever and *typhoid pneumonia*, 274 of remittent and bilious remittent fevers, 318 of intermittent fever, and 297 of small-pox. From January 1st, 1842, to January 1st, 1843, 1,286 have received the benefits of this institution. Most of these patients were sick on their arrival here."

are thus rendered a fertile soil for the germination of seeds of new diseases, which future circumstances may plant. Ostracised, they soon experience the depressing effects of being strangers in a strange land. Ignorant where to look for a support, thousands are cast upon charity, for a meagre and uncertain subsistence.

"Living with their acquaintance awhile in crowded apartments, in cellars, in crumbling tenements, and narrow courts and streets, and upon food poor in quality, and stinted in quantity, they are peculiarly exposed to inroads of disease, and to none more than consumption. These causes are not peculiar to New York. Its climate, the least of all, perhaps, aids in the work of destruction. The same result would ensue, upon the same aggregation of causes and material, in any other place, and it cannot justly be charged upon any insalubrious peculiarity of its geographical position, its soil, or meteorological qualities. Whence comes the great mortality by consumption of 410 natives of Ireland, as shown in the bill, *more than two-thirds the number of white natives*, if not from the combined influences of mental, moral, and physical degradation and depression, incidental to their change of country, climate, habits and associations? The means are not at hand for estimating the proportion of foreigners *resident* in Boston or Philadelphia, nor indeed in this city; but the different relations of the three places indicate very plainly the greater burden of New York in this respect.*

"Besides, it is well known here, that considerable numbers of poor people, settlers in neighboring states and counties, come in the winter time into the city, and find their way into the Alms-House, from which they depart, in many cases, only to the grave. They bring disease with them; it does not originate here. Our public charities are famous abroad, and allure very many to their comforts.

"To all these causes, by which the annual bill of mortality is enlarged, must be added that of the introduction for interment, of many bodies dying in other places. Of the 231 brought here last year for this purpose, 26 were deaths by consumption, and these must be deducted from the gross number.

"Large allowances, therefore, must be made in favor of New York, in estimating its comparative salubrity, and its exemption from, or liability to, any particular disease. When these are properly made, we shall find very different results from those in which no attention has been paid to the peculiarities of our commercial position.

"Under these circumstances, 339 will be a just number to be subtracted, in order to bring the deaths by consumption within the proportion of natives and foreigners of the other cities mentioned. It is but a little over one half the deaths of foreigners by this disease here. If then, we deduct the same number, 339, from the deaths by all causes (except still-births), we have the following proportion:

"Deaths by consumption 1000, by all other causes 8,136:—being a proportion of 1 to 8,136—a greater exemption than is given to Philadelphia, which has already been estimated as more exempt than Boston, from consumption."†

"* The relative proportions of this class of residents may be inferred from the following extract from the returns made to the U. S. Secretary of State, of the number of "Passengers who arrived in the United States, 1840."

	Boston.	Philadelphia.	New York.
1st quarter,	153	32	3,951
2d do.	1,645	1,914	27,310
3d do.	2,445	1,808	22,526
4th do.	1,118	325	6,822
Total,	5,361	4,079	60,609

In 1842, 74,949 passengers arrived at the port of New York.

"† Another fact to be regarded is, that in all the calculations I have seen, the *still-births* of other cities have been *included*. For obvious reasons these should always be deducted from the gross mortality. If we include them in ours, as others have in their estimates, the proportion of the deaths by consumption in New York, for 1842, will be to the whole number of deaths, as 1 in 8,837."

This disease may be regarded as the great scourge of humanity. "It has been calculated by the late Dr. Young, Dr. Woolcombe, and others," says Sir James Clark, "from the best data that the bills of mortality afford, that in Great Britain and Ireland, consumption causes one-fourth part of the deaths that occur from disease." It is more prevalent, however, in some countries than others, very high and low latitudes, as a general rule, and especially the former, having less of it than the temperate regions. From a careful examination of the bills of mortality of Boston, New York, and Philadelphia, during a period of thirty years, (from 1811 to 1840 inclusive,) by Dr. George Hayward, as presented in the "New England Quarterly Journal of Medicine and Surgery," January, 1843, he arrives at the conclusion that there has been a "great decrease of deaths by consumption in these cities." This result he ascribes chiefly to the causes set forth in the following extract:

> "It must be evident, then, I think, to any one who will examine the subject, that it is impossible to explain the great diminution in the number of deaths by consumption, as reported in the bills of mortality of the city of Boston, without admitting that there is an actual decrease of that disease. To what this decrease may be owing, it is not, perhaps, easy to determine. It is probably, however, to be referred to a combination of causes, rather than to any single one. These, I should say, were mainly the great improvements that have taken place in living during the last thirty years; to the increased comforts of life, which are now enjoyed by every class of the community. People are better fed, better clothed, live in more comfortable houses, indulge less in excesses of all kinds, and pay more attention to personal cleanliness, than they formerly did. They adopt better and more effectual means to protect themselves from the vicissitudes of temperature, and the low rate at which cotton fabrics can be obtained, and the consequent general use of them, have no doubt contributed essentially to this desirable result."

Closely connected with the subject of the preceding remarks, is the "Brief View of the *Sanitory Condition* of this City," also presented by Dr. Griscom. This exposition of *endemic* influences, we regard as highly important. Indeed, it is a subject that deserves much more cultivation than it has yet received. It is now well known that a knowledge of those peculiarities of physical and moral circumstances, which co-exist with certain forms of disease, constitutes a department of medical science that includes some of its essential principles. When we consider the multiplicity of these endemial causes, the diversity and importance of the resulting effects need not excite our surprise. They comprise, for example, temperature, prevailing winds, geological formation, soil, vegetation as regards culture or a state of nature, locality, as respects elevation or the vicinity of large bodies of water, etc., in their various conditions and combinations, in connection with the agency exerted on the human frame by occupations, modes of life, and moral influences. Moreover, as the conjoined operation of these physical phenomena and moral conditions constantly varies, the results are correspondently modified; and hence, too, it follows that endemic influences are recognized rather by their effects than demonstrative properties. The sad consequences resulting from a concentration of population in cities, for instance, have been lately strikingly demonstrated in the Report of the Registrar General of Great Britain,—effects resulting from a confined and impure air, co-operating with the exhaustion arising from dissipation or mental exertion, the luxuries of refinement, and the excitement of the various passions and moral emotions.

In proportion as the mechanical arts of civilisation outnumber the simple contrivances of the savage, are the intellectual powers called comparatively into action, and in the same ratio is the susceptibility to moral impressions augmented. In proportion as man's relations with the world around him are multiplied, do we observe the deleterious influence of mental perturbations on his physical frame, as, for example, the functions of the digestive organs and nervous system generally. If we look around us in this vast city, we observe on every side an intensity of interest attached to politics, religion, commerce, the arts, and literature; and more than all, we behold that intense anxiety of mind attendant on the speculative risks, by which the pecuniary affairs of a large majority of the community are kept in a state of perpetual vacillation.

But the class of population to which the statistics of Dr. Griscom refer, seem, with slight exception, to have very little to do with the mental perturbation connected with literature, commerce, or bank stocks. On the contrary, they might be correctly designated as the species *troglodyte*, or *dwellers in dark, damp cellars.* But we will allow Dr. G. to speak for himself.

> "The first among the more serious causes of disordered general health, to which I would draw your attention, is the *crowded condition, with insufficient ventilation, of a great number of the dwellings of this city.* This subject is properly to be regarded in a twofold aspect. 1st. As respects the direct physical influence of the impurity of the atmosphere, arising from the abundant animal and vegetable exhalations. 2d. With regard to the depraved effects which such modes of life exert upon the moral feelings and habits, with the tendency of that depravity to increase and modify the severity and forms of disease. Bearing upon each of these points, I will state a few facts which a partial inquiry has developed, and offer some remarks upon them, as well as upon a collateral branch of the same general subject, of great interest to every enlightened statesman and philanthropist, and of unquestioned influence upon the sanitory condition of the poorer classes, viz.: *the habitation of dark, damp cellars.*
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> "Compelled as we are to live in houses, whereby we are cut off in a great measure from the enjoyment of the air in its greatest freedom and purity, it is incumbent upon all, as they would partake of the great gift so lavishly expended for us, to change and renovate the atmosphere of their dwellings as often as possible. This, as a plain rule of hygiene, will be disputed by no one of sufficient intelligence to understand the use of atmospheric air; but the infrequency of a free ventilation of dwellings, and the consequent repeated respiration of the same air, for days and weeks together, indicate either a profound ignorance, or a culpable carelessness, of health and life. We seem, generally, to be too fearful of the presence of fresh, pure air.
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> "There are some practices, especially, which have fallen repeatedly under observation, which cannot be too severely reprehended, particularly as many who indulge in them, cannot plead ignorance in palliation.
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> "Of these, one is the practice of keeping schools for young children in underground basements of dwellings and churches, and in other rooms with low ceilings, and an absence of any proper means of ventilation. Some proprietors of schools, with an eye to economy of fuel in winter, and an apparent dread of the pure air of heaven, do not open the windows of the school-room for an entire week, and the most rigid caulk the crevices of the windows, and all unnecessary doors, preventing the least opportunity of a change of air. To complete this economical, but health-destroying, arrangement, a close stove

near the centre of the room, maintains a temperature which would be insufferable, if the animal heat of the teacher and the pupils had free course of development, by more frequent inspirations of pure cool air.

"This crowding together of young children for many hours a day, in small rooms, thus sedulously closed against the external air, at the period of life in which free respiration, and abundant exercise, are most required, furnishes us with one of the causes of the great disproportion of the sickness and death of this class of the population. Seminaries thus conducted should be avoided by every parent, as they value the health and safety of their offspring.

"The influences of a confined atmosphere are nowhere more marked, than among the residents of those houses which are occupied by one, or two, and sometimes even more, families, in each room. It is truly surprising how small a space some families can reside in, and how densely they are willing to crowd themselves. Thus circumstanced, when disease overtakes them, its severity is greatly enhanced, and the chances of recovery correspondently diminished.

"One of the most potent causes of the disease and mortality of this, as it is of every other city, in a greater or less degree, is the residence of a considerable part of the population in *cellars and basements*, and *in courts and alleys.* A large proportion of these is subjected to the most trying of all the circumstances of pauper life, except, perhaps, that of being absolutely houseless; and in many instances that have fallen under notice, the latter would almost seem to be the preferable condition, for a portion of the year at least."

Dr. Griscom has been at some pains to ascertain the number of persons who habitually reside in apartments below the surface of the ground; and the result presented in the subjoined extract, falls, in consequence of several reasons specified, even short of the reality:

"Assuming the average number in each family to be *four,* we have a total of dwellers in alleys, courts and cellars, of 33,668.* Many of these back places are so constructed, as to cut off all circulation of air—the line of houses being across the entrance—forming a *cul de sac,* while those in which the line is parallel with, and at one side of the entrance, are rather more favorably situated, but still excluded from any general visitation of air in currents.

"With regard to the influence of these localities upon the health and lives of the inmates, there can be no dispute; but few are aware of the dreadful extent of the disease and suffering to be found in them. In the damp, dark and chilly cellars, fevers, rheumatism, contagious and inflammatory disorders, affections of the lungs, skin, and eyes, and numerous others, are rife, and too often successfully combat the skill of the physician and the benevolence of strangers. I speak now of the influence of the *locality* merely. The degraded habits of life, the filth, the degenerate morals, the confined and crowded apartments, and insufficient food, of those who live in more elevated rooms, comparatively beyond the reach of the exhalations of the soil, engender a different train of diseases, sufficiently distressing to contemplate; but the addition to all these causes of the foul influences of the incessant moisture, and more confined air, of under-ground rooms, is productive of evils which humanity cannot regard without shuddering."

As regards the influence of residence in cellars upon susceptibility to disease, abundant evidence might be readily adduced. Dr. G. presents the following facts from an essay by Dr. Pennel, relative to the "bilious typhus fever," which prevailed in this city in the summer and autumn of 1820:

"Out of the whole number of blacks in this district, viz., 562, 119 lived in cellars, of whom 54 were sick of the prevailing fever, 24 of whom died at their

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* The cellar population of Liverpool is said to be 40,000.

> homes; while, of the remaining number of black inhabitants, viz., 443, 101 were sick, of whom 46 died at their homes. From which it appears that out of 443 who were better lodged, only 101 were sick of this disease; while out of 119 living in unwholesome *cellars*, that *nearly one-half were taken down with the disease*, and that nearly one-half of that number died at their places of dwelling.
>
> "Out of 48 blacks, living in ten cellars, 33 were sick, of whom 14 died; while, out of 120 whites, living *immediately over their heads* in the *apartments of the same houses, not one* even had the fever."

Our author continues:

> "A due regard for the health of the citizens and residents, would justify the city legislature in prohibiting cellars as dwellings, in requiring the owner or lessee to keep all the out and in-door premises clean, and free from everything likely to prove injurious to public health, and an immediate stop should be put to the practice of crowding so many human beings in such limited spaces as we often see them. The wise prohibition to carry more than a graduated number of people, in sea-going vessels, should be extended to dwellings on land. If there is any propriety in the law regulating the construction of buildings in reference to fire, equally proper would be one respecting the protection of the inmates from the pernicious influence of badly arranged houses and apartments. The power given to a magistrate to pull down a building, whose risk of falling endangers the lives of the inmates or passers-by, may with equal reason be extended to the correction of the interior condition of tenements, when dangerous to health and life. The latter should be regarded by the legislator and executive, with as much solicitude as the property of citizens."

Next in the order of details, comes the *Chiffonier*, or rag-picker; and as this animal constitutes a newly described variety of the species *troglodyte*, being an exotic lately transferred to our soil, we cannot forego the pleasure of giving Dr. G.'s amusing description:

> "Within a few years there have been introduced among us, a class of people, whose persons, like their occupations, are the most filthy and degraded imaginable, and whose peculiarities demand for them a brief particularization. These are the *chiffoniers*, or rag-pickers of Paris, London, and other European cities. They may be seen already in considerable numbers, in our streets, furnished with their apparatus of labor, consisting of a long-handled iron hook, with which they rake the kennels, and overturn the heaps of rubbish and filth, in search of rags, bones, bits of paper, &c., and a basket on one arm, or a large bag slung across the shoulder, which receives their gatherings, reeking with mud and filth. From early dawn, these degraded hunters after the apparently most worthless of all matters, pursue their avocation, until night compels them to desist; and for food, they may not unfrequently be seen picking up the garbage thrown into the gutters from the adjacent houses, which they either deposit in a separate receptacle, to be re-cooked at home, or eat upon the spot. They are of all ages and both sexes, though I am happy to express my belief that not an American can be found among them. Yet it is evident that this consolation cannot long remain to us, if the present facilities for their occupation are continued. The children, growing up in utter ignorance, and unfitted for better occupation, will be no better off; and having and desiring no other means of subsistence, while they remain here, *their* children will continue the occupation, and we shall finally have a horde of native Americans, engaged in one of the most disgusting occupations the world can adduce.
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> "Let any one inspect closely the personal appearance of a 'chiffonier,' as he or she perseveringly overhauls a heap of street manure, or drags the gutter before his house, in search of 'spoils;' let the living personification of uncleanness be thoroughly impressed upon his recollection, and then, if he will not

visit it, let his imagination carry him to the home of the family, and see them drop in successively with the proceeds of their daily labor, and deposit them in a corner, or under the tea-table, in the room, which is, at the same time, parlor, chamber, and kitchen, and find them in every part of the premises; will he wonder that, amidst such heaps of abomination, poisoning the atmosphere with nauseous gases, these wretched, unwashed exotics, from transatlantic cities, outcasts from society, and fed upon the coarsest food, should be subject to diseases of the most aggravated and malignant character, and that contagion should there assume its direst form? The dwellings of these people must constitute the very hot-beds of pestilence, should it again come forth among us; and, with the knowledge of their existence, shall we be able truly to say, it 'walketh in darkness?' The remedy for this new sore upon the face of this city, the *exterminator* of this new evil, is apparent; it is *clean streets;* with them the 'occupation' of the *chiffonier* is 'gone.'

"A brief passage in the life of the chiffonier may warn us to check this evil in the bud. In Paris they number nearly 2,000, and pursue their avocation, aided by lanterns, at night, in consequence of the practice of throwing the rubbish from the houses into the streets at night, the sweepers and carts removing it early in the morning. In 1834, during the prevalence of the cholera, the attention of the municipal authorities being directed to sanitory measures, it was determined, in lieu of the large heavy carts, drawn by three horses, then in vogue in cleaning the streets, to substitute quick relays of carts of smaller size, drawn by single horses. 'But in this arrangement an important interest had been overlooked; the chiffoniers, who were said to have been aided and directed by the owners and men belonging to the superseded vehicles, rose in revolt, attacked and drove away the conductors, broke the new carts, and threw the fragments into the river, or made bonfires of them.' Their ignorance, debased morals, and recklessness, with their wretched vocation, followed at the expense of public health and cleanliness, aptly fit them for turbulence and riot; and they may ere long give our magistracy trouble, unless their growth is checked by cutting off their supplies."

In considering the various nuisances in the city which loudly call for removal, Dr. G. refers particularly to that of *slaughter-houses,* "whether we consider their influence upon the health, the decency, or the morals of the community."

Another cause of sickness and premature mortality, which, in Dr. G.'s opinion, demands official notice, is the *milk obtained from cows fed on distillery slops:*

"The object," he says, "in suggesting the attention of the Common Council to this subject, is, that it may consider the propriety of *prohibiting the introduction and sale of milk, thus manufactured.* It is justly to be placed by the side of decayed or poisonous meat, or bad bread, and subjected to the same interdiction and removal, wherever found."

Lastly, Dr. Griscom suggests to the attention of the Common Council certain *preventive sanitory measures.*

"To contrive means by which the filth of the city may be removed as fast as possible, is obviously a point of primary necessity, and there is abundant evidence to show that the most *efficient* as well as *cheapest* mode of removing noxious refuse is by SEWERS. The superior healthiness of London since the plague and fire of 1666, is very much attributed to the care which has since been taken, to improve and complete the drainage by this means. This is now so perfect, that, with the aid of water which is so plentifully distributed, almost every house in that great metropolis is supplied with its water-closet, by which the necessity of open privies in the yards, and the numerous evils which flow from them, are completely obviated. Few can imagine the advantages of such an arrangement, who have not experienced them.

"It has lately been found by experiments made in London, that sewers are capable of removing the street sweepings, thus saving the whole expense of cartage, which, in this city, is not less than thirty thousand dollars per year; but the matter which it is the more peculiar function of sewers to carry off, is night-soil; this can in no other way be prevented from accumulating. Next to this, the refuse parts of food, which, in summer, will frequently putrefy in a few hours, require such a means of removal, for the particles which are mixed with water, and which form a considerable portion of this refuse, must either go into the streets, or into cispools. In the first case, they will putrefy rapidly, and cause offensive and deleterious gases: in the latter, they *may* remain in a harmless state of very slow decomposition; or they may, in hot and dry seasons, putrefy rapidly, and evolve gases of the most dangerous qualities. In this case there is no remedy, but the unpleasant and dangerous one of emptying and cleansing the cispool.

"If it be true, that street dirt can be passed through without deposits on the bottoms of sewers, then we may infer that ashes, garbage, and all organic matters, except bones, may safely be allowed to go in this way, and bones may be reduced to ashes with some little advantage as fuel, and their ashes removed with the rest. The remaining refuse of houses, such as broken crockery, and other inorganic substances, cannot become noxious, and may safely be left for private individuals to remove, when it suits their convenience.

"Supposing that all substances, subject to putrefaction, can pass immediately from houses, through the house drain-pipes, into the sewers, and that therefore there will be no inducement to throw them into the streets; then the streets will be far less encumbered with dirt, and what dirt is in them will be of a kind not liable to decomposition. The excrements of animals will be the only offensive matter. In this case the streets need not be swept so often as they otherwise would require, and it is not unreasonable to say, that, with one or two sweepings per month, they would be far less offensive than they can be, if swept every day, while garbage and water are thrown into them, as at present.

"In choosing between this mode of drainage, and surface drainage, we have to consider the effect on pavements produced by the greatly increased flow of water, which the general use of the Croton will induce. This will be to keep the earth, in many parts, constantly wet and soft, so that paving stones will easily be displaced. At present we observe a remarkable and very common habit, which servants have, of throwing water into holes, even when they have to go nearly across the street to do it, as if these holes were made on purpose to receive water; the effect of which is, to keep the earth about those spots in the state of soft mud, and to make the shock of wheels more effective in depressing the stones. The injury to carriages, also, is very great, and to guard against it they are made of extra strength and weight; and this makes them still more forcible to beat down the pavements into these mud holes. So far, then, as sewer-drainage keeps the pavements dry, it prevents small defects from soon becoming great ones; it makes practicable, lighter and cheaper carriages; it diminishes the wear and tear of vehicles, and probably of horses, and thus, in two ways, diminishes the injury to pavements. Good pavements, by allowing lighter vehicles, and by offering less obstruction to their movements, render riding and cartage cheaper; and as all citizens must save something by this, the benefit obtained from it might fairly be set down in favor of any improved mode of drainage that should produce the result.

"There is another saving to private persons, which, though it might not directly diminish public expenditure, would give more means and more willingness, to pay taxes. Many highly respectable, but poor persons, now feel obliged to spend a considerable proportion of their small incomes in paying the wages, board, and for lodging rooms, of servants; but if houses had water-pipes and drain-pipes, so that there should be no need of going into the streets to perform the mortifying duty of carrying water and emptying refuse, these persons would prefer to do their domestic work themselves, and use their money to procure more wholesome food, better rooms, better education for their children, and other things needful for their happiness. There are others, still more poor, who are compelled to appear in the streets under these mortifying circumstances, and in consequence, however wrong it may be, sometimes lose acquaintances whom they value, and sometimes even their own self-respect and courage, and sink into vice and pauperism. It may further be remarked, that the less unpleasant work we put upon servants, the better servants we shall procure for given wages; and, as the early education of children is much influenced by them, any means of diminishing such work would be willingly paid for, by all sensible parents and housekeepers.

"The refuse of stables, slaughter-houses, markets, etc., might be disposed of in this way, and thus remove nuisances of no small influence on comfort and health. The rents of property, in the neighborhood of such places, are known to be less than property of the same quality in better situations, and we may presume that all holders of property so affected, would gladly pay something for the removal of these evils.

"It is not possible to state the saving of public and private expenditure which would result from such an improvement; but I place them in a tabular form, with estimates of some of the items:

Cost of night-scavengers, per annum - - - - -	$45,000
Cartage of street dirt - - - - - - -	32,000
Saving which *might* be allowed on sweeping streets - -	15,000
Saving on account of pavements - - - - -	10,000
Saving to private persons, of labor in carrying out water, etc., at one cent per day for each of 30,000 houses - - - -	109,500
To which we must add the saving of the cost of sickness, of the pauperage caused by the premature death of parents, and the degradation occasioned by the want of drain-pipes - -	
Loss of taxes which would be paid in the city by wealthy persons, who, chiefly on account of the uncleanly and unwholesome condition of the city, build their houses out of it - - -	
Loss of the land-rents of those houses, and the diminution of house-rents, caused by the offensiveness of privies, where the lots are not deep.	

As regards the advantages of *public baths* in the city of New York, we heartily concur in the views contained in the following extract:

"Another application of the bountiful Croton, which cannot but be deemed of the highest sanitary importance, is the establishment of *baths*. Advantage has already been taken of it for this purpose, to a partial degree, in private and public establishments; but there is one mode in which it may be applied, with still greater benefit to the mass of the population, to which I have, as yet, seen no allusion. I advert to the establishment of *swimming baths* in the heart of the city. Free bathing is a luxury of which our citizens generally have been deprived, except at great trouble and loss of time. Ordinances of the Corporation very properly forbid it in the rivers within certain limits, which, with the absence of all convenience and protection at unprohibited places, and the great distance of the few salt water baths now established, from the centre of the City, has operated virtually as a prohibition, upon ninety-nine hundredths of the population. A swimming bath of sufficient dimensions may now be brought within the reach of every citizen, for a very moderate price, so that all may indulge in this health-provoking exercise; and if used as swimming schools, every child would be enabled to learn the noble life-preserving art. An excavation of five or six feet in depth, in an ordinary building lot, leaving sufficient space for the erection of dressing boxes, if properly cemented, with a small stream of water constantly flowing through it, would maintain a bath, at a temperature sufficient for use during more than half the year, and many would doubtless take advantage of it the entire year.

Considering the antiquity of the custom of bathing—the fact that it is coeval with the earliest historical records, and that it was regarded among ancient civilized nations as one of their greatest luxuries—it is strange that, at the present day, it is so little used among the most refined and cultivated of the more northern nations. The daughter of Pharaoh bathed in the Nile; the luxury of the bath was not unknown to the heroes of the Iliad; that the ancient Hebrews were not unaccustomed to its use is obvious from a circumstance connected with the fact that, as the primer has it,

Uriah's beauteous wife,
Made David seek his life;

and, indeed, among this people, purification by "bathing his flesh in running water," which was enforced as a religious observance, became synonimous with moral purity. Among the Assyrians, Medes, and Persians, there were baths of great grandeur—so much so among the last named, that even Alexander, notwithstanding accustomed to the voluptuous ones of Greece and Macedon, was astonished at the luxury and magnificence of those of Darius. Among the Romans, the practice of bathing, with the advancement of luxury, was carried to such an extent, that it became necessary to erect stupendous edifices, the remains of which, at this day, excite our wonderment; as, for instance, the Thermæ of Agrippa, of Nero, of Titus, of Vespasian, and of Diocletian. At Rome, as every classic student is aware, the combatants in wrestling and racing, in throwing the javelin and pitching the quoit, would, while yet warm and panting, plunge into the Tiber,—a circumstance alluded to by the poet of the "*Seasons*," in the words—

————Hence the limbs
Knit into force; and the same Roman arm
That rose victorious o'er the conquer'd earth,
First learn'd, while tender, to subdue the wave.

Even among the ancient civilized inhabitant of Mexico and Peru, the luxury of bathing was not unknown, as is evident from the remains of their magnificent baths. At the present day, the custom prevails extensively among the Turks and the eastern nations generally. Even the inhabitants of the South Sea isles go into the water twice daily, and wash themselves from head to foot. In London and New York, however, notwithstanding the great command of water possessed by both, the existence of a public bath is entirely unknown. Personal neglect in this respect, with all its filthy and unhealthy consequences, is far too prevalent with us,—a neglect of which many would be heartily ashamed, were it not for the screen insidiously afforded by their clothing; and all this, especially on the part of the poor, is attributable solely to the want of public baths. Let our municipal fathers, therefore, at once turn over a new leaf, and write upon it a law establishing *public baths;* and let them also place, as an inscription upon each of these Thermæ, in letters of gold, the truthful and beautiful words of the poet just quoted:

E'en from the body's purity, the mind
Receives a secret sympathetic glow.

As regards the classification of the diseases producing death, in this Report, we are clearly of opinion that it is susceptible of great improvement. We are aware, from some personal experience in the matter, that it is a subject presenting many difficulties; but we cannot see, for example, the propriety of arranging, as is here done, under the head of "*Sporadic diseases*," those of the *digestive organs*, including the mouth, œsophagus, stomach, small intestines, colon, rectum, liver, and spleen, and *excluding, at the same time, diarrhœa and dysentery*. After considerable search for the last two, we found them under the general head of "*Epidemic, Endemic, and Contagious Diseases*." Above all things, we would caution against a frequent change of classification, unless for the most substantial reasons; for, as respects the averages of years, it is better to have a less perfect classification with *uniformity*, than a much better one with *continual alterations*.

In Document No. 111, Dr. Griscom carries out his views still farther, as regards the advantages of a well-organized health police; but the space already given to this interesting subject warns us to be brief. The city of New York has now eighteen health wardens, one of whose duties it is to determine what constitutes a nuisance; to what degree it is calculated to affect the salubrity of the atmosphere; to pass judgment upon a thousand circumstances, involving the doctrines of miasmata and their various influences upon human health; in a word, it is required of them, in justice to the important interest of preserving the general health entrusted to their care, to have an extensive knowledge of the whole subject of endemic influences. But what is the real state of the case under the existing arrangement? No incumbent, forsooth, has ever urged his claims to the office of Health Warden, on the ground of possessing the knowledge which can alone qualify him for a faithful performance of the duties! "I have no hesitation," says Dr. G., "in saying that this city has not, and never has had, any internal health police worthy of the name." It is obvious enough, without argument, that the qualifications for an efficient health police can be found only in the ranks of the well-educated portion of the medical profession; and thus would not only the preservation of the general health be better maintained, but a large pecuniary saving, in the opinion of the city inspector, would be made to the public treasury.

Now, let us suppose these eighteen health wardens in solemn conclave, discussing the various questions presented in the "*Report from the Poor Law Commissioners on an Inquiry into the Sanitory Condition of the Laboring Poor of Great Britain*," or the "*Reports on the Health of Towns, ordered by the House of Commons to be printed*." With what depth and comprehensiveness of knowledge would each of these philosophers weigh the *pros* and *cons* pertaining to the grand questions here presented! How nicely would they examine the force of conflicting testimony! Each one would, of course, intuitively arrive at the decision of questions which now divide medical opinions! No difficulty could surely be presented by such questions as these: Is the decomposition of organic remains ever a cause of fever? Does fever ever arise from the accumulation of healthy human beings, without the introduction of an infected person? Are putrid ingesta ever the cause of disease?

But to be serious, we would commend to the attention of our City Fathers, the following proposition:

"I propose for the organization of a Health Police Department, instead of the present division of the city into 17 wards (having 18 Health Wardens,) that it be divided into 12 districts, and 12 medical men of good character be appointed, one to each district, who shall be called Health Inspectors, and who, together with the City Inspector, shall constitute the Health Police, the latter officer being the head of the Department."

Let the profession, then, speak out boldly, and assert its dignity and its claims upon this question. Experience abroad amply proves the propriety and advantage of the combination of executive power with medical discrimination in all questions of a politico-sanitory character.

The questions here presented, involving the grand subject of *endemic influences*, all of which have a direct bearing upon the production of *consumption*, are, we repeat, of the very highest importance. They serve to show that the general opinion, that consumption (*tubercular*) is mainly dependent on a changeable climate, is not sustained by facts; but that this cause is subordinate to many others, connected with modes of life. Hence it follows, too, that the inference relative to the liability of the inhabitants of this city to consumption, drawn from its higher rates as compared with Boston and Philadelphia, is not a legitimate deduction. This difference finds a satisfactory explanation in the simple fact, that New York receives annually twelve times as many immigrants as either Boston or Philadelphia.

ART IX.—*The Northern Lakes; a Summer Residence for Invalids of the South.* By DANIEL DRAKE, M. D., Prof. in the Medical Institute of Louisville. Louisville, Ky. pp. 29.

As this is the season for enjoying the pleasure and profit of travelling, a notice of this very interesting pamphlet comes before our readers quite *à propos*. This is the title of a discourse delivered by Dr. Drake in the Hall of the Medical Institute of Louisville, having for its object a recommendation to the valetudinarians of the South, of a "*Tour to the Lakes.*" Embodying "some of the observations made during a tour of medical inquiry in the past summer," he designates the most favored localities of that region, and the best routes of travel by which they may be reached.

Dr. James Johnson speaks of the "*wear-and-tear complaint,*" which means a condition of body and mind intermediate to that of sickness and health, but having a decided inclination to the former state. This *morbus anonymus* he considers incurable by physic; but, notwithstanding its incurability, it no doubt makes much less work for the undertakers than for the doctors. It is obviously the result of the *wear and tear* of the living machine, both mental and corporeal; but it is much less the effect of over-exertion of the corporeal powers than of the thinking faculties, more especially if attended by anxiety of mind and the breathing of an impure atmosphere. The sinews of life may here be compared to the strings of a harp, which, relaxed by a long series of vibrations, demand bracing up. How very truthful is the trite saying—The bow that is always bent will lose its spring.

While this disease predominates in London, in Paris it is almost unknown—a difference which is fairly attributable to the circumstance that in the former they make their pleasure consist in business, whereas in the latter the rule is so completely reversed, that pleasure constitutes almost the only business. As it is in London, so it is in our own city of New York. The fatigue induced by the hardest day's toil of mere bodily labor, may be dissipated by

> "Tired nature's sweet restorer, balmy sleep;"

but not so with the thought and care—the fatigue of mind—which harass the constitution that has been over-worked, intellectually and corporeally. The repose of the downy pillow will be sought in vain. After a night of disturbed slumbers, or distressing dreams, the unfortunate victim of high civilisation is doomed to rise more languid than when he lay down to woo the "sweet restorer."

No sooner, however, does the permanent resident of a large city, laboring under this deterioration of health, which has been termed *Cachexia Londinensis*, leave the

> "chaos of eternal smoke
> And volatile corruption from the dead,
> The dying, sick'ning, and the living world,"

than the etiolation or blanching, stamped upon the countenance, vanishes, and the glow of ruddy health usurps its place. In the preceding article, reference has been made to the fact that in proportion as man's relations with the world around him are multiplied, as contrasted in the states of savage and civilized life, do we observe the deleterious influence of mental perturbations on his physical frame augmented. This *wear-and-tear* of the *morale* and the *physique* are, unfortunately, in our large towns, too widely evidenced on every hand.

Does there not, then, exist a remedy or an antidote, when these ills have actually supervened? The experience of every summer, indeed, tells us, in language admitting of no two-fold meaning, that the wear and tear of city life, whether resulting from dissipation, avocation, mental anxiety, or the thousand other moral and physical ills, find reparation, in some degree at least, in the relaxation and corporeal exercise sought in a pure rural atmosphere. Look at the pale and sickly aspect of the denizen of our metropolis, as he sets forth on a trip of a month for Saratoga and the White Mountains,—for Niagara, Quebec, and the great Lakes,—or peradventure the medicinal springs, abounding in the mountains of Virginia. Behold him again on his return: the care-worn countenance "sicklied over with the pale cast of thought," is now tinged with the ruddy glow of health. In this manner does the British metropolis annually pour out its thousands of citizens, seeking health and recreation among the lakes of Cumberland, the lochs and mountains of Scotland, the valleys of Wales, and the green hills of Erin; whilst their more aristocratic neighbors of Westminster may perchance wend their way to the Alps or to the Appenines. It is, indeed, fortunate for the well-being of the civic inhabitant that a temporary abstraction from smoke and dust and din, is thus afforded;

and that one annual interval of relaxation is thus experienced in the cares of commerce, the thirst of gold, the struggles of competition, the madness of ambition, and the riot of dissipation.

In view of what has been written on the comparative fitness of different places towards the equator, as winter residences for invalids of the north, Dr. Drake thinks, with good reason, that the valetudinarians of the former regions have equal claims upon the medical observer as regards a summer residence. He merely proposes to add another, and as he supposes, a superior place of resort, to those already frequented; such as the Springs of Virginia, Kentucky, Pennsylvania and New York, the marine watering places of Long Branch, Newport, Nahant, etc., as well as a trip to the Falls of Niagara, or a voyage on the St. Lawrence to Montreal and Quebec.

> "It is not our intention," says Dr. D. "to declaim against any of these resources, but to add another, which we cannot but regard as superior to either, and, in reference to certain invalids and fashionable *ennuyés*, preferable to the whole. Before proceeding, however, let us inquire, what is necessary to give effect to a sojourn in the north by the class of persons whose tastes or infirmities demand it. In the first place, as the majority are citizens, they should, in travelling for health or recreation, seek for places and scenes that will be in contrast with their homes. The invalid cannot recover, nor the fashionable rusticate, in a crowd. 2d. The places now frequented are not so far north as to give many of the advantages of a cool climate. 3d. They offer but few novelties. 4th. They do not abound in historical associations. 5th. Although the springs of New York, Virginia and Kentucky, are valuable in several forms of chronic disease, they are useless in others, and injurious in some—while the invalid seldom proceeds to drink of their waters understandingly. 6th. The amusements and dissipations in which they abound, often tempt the infirm into unhealthy indulgences. 7th. It is, we believe, an admitted truth, that, in general, but a *part* of the benefit which results from visiting mineral springs, comes from the use of their waters."

After designating, on the map of North America, the situation of the great lakes relative to the States, and also the several routes by which the inhabitants of the South may reach them, Dr. D. presents us with a summary account of the physical characteristics of this region, such as the area, depth, temperature, and color of these lakes, as well as of the general condition of the atmosphere, and of the refreshing lake and land breezes. How truly delightful is it to traverse these ocean-lakes, or inland seas, during the season of summer, we can add our testimony from personal experience. Instead of the reflected heat of inland regions on the same parallels, which rivals that of the West Indies, we have here cool and refreshing lake and land breezes, the former prevailing through most of the day, and the latter setting in at night as soon as the radiation from the ground has reduced its temperature below that of the water. As the distance from Buffalo to Chicago is more than twelve hundred miles, the invalid of the South is enabled to derive much advantage from a voyage over this long expanse of waters. But we will allow the author to speak in his own graphic language:—

> "But the summer climate of the lakes is not the only source of benefit to invalids; for the agitation imparted by the boat, on voyages of several days' duration, through waters which are never stagnant, and sometimes rolling, will be found among the most efficient means of restoring health, in many chronic diseases, especially those of a nervous character, such as hysteria and hypochondriasm.

> "Another source of benefit, is the excitement imparted by the voyage to the faculty of observation. At a watering place all the features of the surrounding scenery are soon familiarized to the eye, which then merely wanders over the commingled throngs of valetudinarians, doctors, dancers, idlers, gamblers, coquettes and dandies, whence it soon returns, to inspect the infirmities or *tedium vitæ* of its possessor; but on protracted voyages, through new and fresh regions, curiosity is stirred up to the highest pitch, and pleasantly gratified by the hourly unfolding of fresh aspects of nature; some new blending of land and lake—a group of islands different from the last—aquatic fields of wild rice and lilies—a rainbow walking on the "face of the deep"—a water spout, or a shifting series of painted clouds seen in the kaleidoscope of heaven.
>
> "But the North has attractions of a different kind, which should draw into its summer bosom those who seek health and recreation in travel. From Ontario to Michigan, the voyager passes in the midst of spots consecrated to the heart of every American, and deeply interesting to all who delight to study the history of their native land. The shores and waters of the lakes, so often reddened with the blood of those who fought and died in the cause of their country, will present to the traveller of warm and patriotic feelings, scenes which he cannot behold without an emotion, under which real diseases may abate and the imaginary be forgotten."

Along this route of twelve hundred miles, from Chicago to the Falls of Niagara, patriotic emotions, as is justly observed by Dr. D., are being continually excited in the mind of the traveller; but as we cannot here follow him in the narrative of his voyage descriptive of the scenery and historical associations everywhere obtruded upon the view, we must be content to give his concluding remarks:—

> "Such are some of the historical associations connected with a voyage upon the lakes; and where else in the Union can the invalid and the patriot roam, to find localities so opulent in varied and affecting recollections—so accessible—so arranged upon the thread of travel! We may fearlessly affirm, that in this respect, the lakes of the North take precedence over any other region of our beloved country. Their deeply-wooded shores yield a bountiful harvest of facts to the historian; while their green waters reflect images of glory, sadness and shame, which the poet and orator will embody and bequeath to posterity."

But there are certain points in the course of this circuitous voyage, at which the traveller should repose and look around him; and of these, the *Sault*, or *Rapids of the St. Mary*, fifteen miles below Lake Superior, is one of the most interesting, as appears by the following description:—

> "As the *Sault* has the latitude of forty-six and a half degrees, it is the most northern summer residence which our country affords; and corresponds with Tampa Bay, as a place of resort in the winter. It was settled, as a Canadian fur trading establishment, nearly two centuries ago; and a long experience demonstrates, that its summer climate is one of the most healthy on the continent. It is still *but* a trading establishment, protected by Fort Brady, and inhabited by a mixed population of Americans, French, and Indians. The British North-West Company have a factory on the opposite shore of the river. An Episcopal Missionary keeps a school for Indian children on the same side, and there is another in the village supported by the Methodist Church. Wild and distant, then, as this place may seem to the fashionable valetudinarian, he will perceive, that on going thither he will not pass beyond the companionship of clergymen, teachers, officers, merchants, and other members of civilized society; while every hour in the day will furnish him with groups of Chippewas, and every walk bring him to some one of their conical lodges, constructed of

poles and flag-mats, or cypress bark. He will also be in the midst of another class of men, almost as different from himself as the wildest Chippewas. The Canadian *voyageurs*, born and reared on the shores of the lakes, are a peculiar race, and add much to the picturesque aspect which society here presents. Equally animated and at ease, both on land and water, in the villages and the wilderness, among civilized men and the wildest Indians, they are the cosmopolites of the North, and the backwoodsmen of Paris; for whether encamped with Chippewas on the banks of the St. Mary, or engaged in transporting the travellers of the South to its source in Lake Superior, they display not a little of the gaiety of heart, and courtesy of manners, which characterize the citizens of the French metropolis."

We fully concur with our author in the opinion that but *a part* of the benefit resulting from mineral springs comes from the use of their waters. When we consider the multitude of valetudinarians, who annually visit the watering-places of this country and of Europe, and who return to their homes renovated in health, and inspired with confidence in the virtues of the waters near which they may have resided, the inference is obvious that the salutary effects are attributable more to the change of air and other extraneous circumstances, than to the waters. This is well illustrated in the circumstance that many a valetudinarian, in leaving an Atlantic town for the interior mountainous region, as, for example, the White Sulphur, in Virginia, finds himself, during the journey, fatiguing as it is, almost restored. Many springs which are inert, as the Bath and Matlock waters of England, have thus acquired a high reputation for their medicinal qualities. These agreeable watering-places are constantly crowded during the season of visiting, the latter in consequence of the surrounding beauties of nature, and the former for the ceaseless round of amusements, which, keeping the mind engaged, produce a beneficial re-action on the mental or corporeal disorder. Were such waters bottled and transported to a distance, it is obvious that no beneficial effects could follow their use by an invalid. It was proposed, at one time, to carry sea-water by means of pipes to London, to place within the reach of all of its inhabitants the advantages of sea-bathing at home; but had the scheme been carried into execution, it is much more than probable that the usual effects of sea-bathing would have been no longer realized. The establishment of a railroad between a city and a watering-place, exercises, to some extent, a like agency.

The great valley of the Mississippi has been viewed by Dr. Drake with the eye of a philosophic inquirer, as is abundantly evinced by his Lectures, Discourses, Topographical Descriptions, etc. This vast subject has engaged his able mind for many years; and as he made a tour of medical inquiry upon the lakes last summer, so we find him, at this time, surveying the physical features and the endemic influences of the region of the lower Mississippi, as far south as the city of New Orleans. The materials thus collected, we are pleased to learn, will form the subject of a complete work upon the climate, topography, and diseases of the Great West,—a theme, for the execution of which we feel confident, from no little personal knowledge of Dr. D., that he possesses peculiar qualifications. We have just said the *Great* West, and *great* it is destined to be, not only controlling, ere long, by the preponderating numbers of its people, the government of the whole Republic, but exerting a powerful influence on the whole civilized world. As we dwell upon this subject with pleasure, we may be permitted to present our own conclusions upon this point, as expressed in our work on "The Climate of the United States and its Endemic Influences:"

"The great and magnificent central basin of North America, which spreads from the Alleghanies to the Rocky Mountains, and from the Gulf of Mexico to the Arctic sea, is comprised only in part within the United States; but this section constitutes the most fertile and valuable portion of this vast central plain, which, including the valley of the St. Lawrence, embraces an area estimated to contain, 3,250,000 square miles. On its northern borders, where winter holds perpetual sway, vegetable life expires, or survives only in some species of mosses and lichens. South of these dreary wastes, stunted trees begin to appear, forming gloomy and desolate forests; and it is not until we reach the fiftieth parallel, that the eye is cheered with the vegetation known in the temperate zone. Proceeding still farther south, we ultimately discover, in the valley of the Mississippi, the palms and splendid foliage of the tropics,—a land already peopled by millions, and one destined, as a necessary consequence springing from natural adaptation, to nourish upon its fertile bosom multitudes as countless as on the teeming plains of India and China. A characteristic feature of this immense basin of the Mississippi and Missouri, is the vastness of its level surface, covered with primeval forests or spreading in vast savannahs, unless where encroached upon by the rapidly advancing tide of human colonization. Its tracts of fertile lands, with its great and navigable rivers terminating in one main trunk, open to it prospects of opulence and populousness to an extent incalculable. In this region, man is everywhere occupied in opening new lands, in building houses, in founding cities, and in subjugating nature."

Art. X.—*Mental Hygiene; or an Examination of the Intellect and Passions, designed to illustrate their Influence on Health and the Duration of Life.* By William Sweetser, M. D., late Professor of the Theory and Practice of Physic, and Fellow of the American Academy of Arts and Sciences. New York: J. & H. G. Langley, 57 Chatham street. 1843. 12mo., pp. 270.

This work is from the pen of a writer already favorably known to the reading public; and in thus again presenting to them the result of his labors, we are happy to find a volume not less entertaining than useful. Dr. Sweetser possesses the rare merit of being able to convey knowledge, not only in a very agreeable manner as regards a lively and vigorous style, but equally so as respects preciseness of thought and of grammatical construction. The work does not by any means partake of a strictly medical character, being fully adapted to the whole reading public.

"The leading design of the present volume," he says, "as its title implies, is to elucidate the influence of intellect and passion upon the health and endurance of the human organization. This influence, we believe, has been but imperfectly understood and appreciated in its character and importance by mankind at large. Few, we believe, have formed any adequate estimate of the sum of bodily ills which have their source in the mind. Those of the medical profession, even, concentrating their attention upon the physical, are too prone to neglect the mental causes of disease; and thus may patients be subjected to the harshest medicines of the pharmacopœia, the true origin of whose malady is some inward and rooted sorrow, which a moral balm alone can reach."

The work is divided into two parts, the *first* being devoted to a consideration of the intellectual operations as regards their influence on the general functions of the body. Upon this division of the subject, our author remarks:

> "As the effects which they induce in the animal economy are less strongly marked, and less hazardous to its welfare than those belonging to the passions, comparatively little space will be devoted to this division. Indeed, when pure, or as much so as is consistent with their nature—for scarce can we conceive of any mental function entirely isolated from every shade of affection—the intellectual operations can by no means be viewed as an ordinary occasion of disease, or as tending directly to abbreviate the term of existence. The infirmities so apt to be witnessed in those whose pursuits are of a more strictly intellectual character are much oftener imputable to the agency of the passions aroused by, and blended with the mental efforts, or else to the sedentary and other prejudicial habits of life with which they are so frequently united, than to the mere abstract labors of thought."

In the *second part* is presented a view of the moral feelings or passions in the relation which they also maintain toward our physical nature. Under the three great classes of pleasurable, painful, and mixed, our author takes "occasion to examine more closely their physical phenomena and individual influence on the well-being of the human mechanism." And, lastly, the evil consequences resulting from an ill-regulated imagination to the integrity of the nervous system, as well as of the general health, are considered by our author.

The question whether there exists no link of transition uniting man with the inferior animals, is presented to the reader. "May it not rather be," says Dr. S., "that the step from the highest race of the ape to the most humble of our own, is really easier than human pride is willing to acknowledge?" This is a question that opens a field of inquiry that would fill volumes; and we can here only say that from an extensive investigation of this subject, our opinion is decidedly in the negative. The ourang-outang, it is true, was introduced into the human family by Linnæus, Buffon, Helvetius, and Monboddo; but the fallacious conclusion of these philosophers relative to man's *distinctive species*, has since been abundantly established. Among a multitude of really characteristic differences between the life of instinctive and that of rational agents, one of the most obvious is the changeless uniformity which prevails in the habits of the former, in successive generations, contrasted with the variations in the same presented by the latter, either tending to improvement, or to alternate periods of improvement, with reverses and retrograde changes. This fact has been so happily expressed by the learned Dr. Prichard, in his "Natural History of Man," that we cannot forego the pleasure of quoting it here:

> "The Numidian lion and the satyr of the desert, the monarchies of bees and the republics of African termitas, are precisely to-day what they were in the age of Æsop and in the kingdom of Juba; while the descendants of the tribe who

are described by Tacitus as living in squalid misery in solitary dens, amid the morasses of the Vistula, have built St. Petersburg and Moscow; and the posterity of cannibals and phthirophagi now feed on pilaus and wheaten bread."

This work, by the way, is copiously illustrated with striking anecdotes and celebrated instances, in a manner calculated to lead on the reader unfatigued to its final page. As a specimen of the author's diction and of the general value of his observations, the following extract, taken in a measure at random, is presented.

"It is a fact well known in respect to certain individuals, especially when of a nervous or sensitive temperament, that if the thoughts of any particular deed, calculated, from its criminal or hazardous character, to make a deep impression on the feelings, chance to be strongly awakened in the mind, they cannot be banished, but becoming more and more concentrated, a propensity, sometimes too powerful for resistance, to the commission of such deed, will actually follow. Were such a one now to become deeply affected—either from his connection with its subject, or its peculiar circumstances—by the occurrence of a suicide, the idea of it might continue pertinaciously to haunt his imagination, and an unconquerable inclination to the like dreadful act be the consequence. And that murders are sometimes committed under the same mysterious and urgent impulse, is a fact too well established for denial. I remember an instance in point, which happened a number of years since under my immediate observation. A young lady, while sitting with an infant in her arms near a fire, over which hung a large kettle of boiling water, suddenly started up, and in a hurried and agitated manner ran to a distant part of the room. On asking her the reason of this, she, after a little hesitation, told me, that fixing her eyes on the boiling water, it occurred to her how dreadful it would be should she by accident let the child fall into it. 'On this idea crossing my mind,' said she, 'I instantly began to feel a propensity to throw it in, which soon grew so strong, that had I not forced myself away I must inevitably have yielded to it.'

"The following case was first published among other similar ones by M. Marc. It occurred in Germany, in the family of Baron Humboldt, and has the testimony of this distinguished individual. The mother of the family returning home one day met a servant who had previously given no cause of complaint, in a state of the greatest agitation. She desired to speak with her mistress alone, threw herself on her knees and entreated to be sent out of the house; giving as her reason, that whenever she undressed the little child which she nursed, 'she was struck with the whiteness of its skin, and experienced an irresistible desire to tear it in pieces.'

"'A country woman, twenty-four years of age, of a bilious sanguine temperament, of simple and regular habits, but reserved and sullen manners, had been ten days confined with her first child, when suddenly, having her eyes fixed upon it, she was seized with the desire of strangling it. This idea made her shudder; she carried the infant to its cradle, and went out in order to get rid of so horrid a thought. The cries of the little being, who required nourishment, recalled her to the house: she experienced still more strongly the impulse to destroy it. She hastened away again, haunted by the dread of committing a crime of which she had such a horror; she raised her eyes to heaven, and went into a church to pray.

"'The unhappy mother passed the whole day in a constant struggle between the desire of taking away the life of her infant, and the dread of yielding to the impulse. She concealed, until the evening, her agitation from her confessor, a respectable old man, the first who received her confidence, who, having talked to her in a soothing manner, advised her to have recourse to medical assistance.'*

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* Prichard on Insanity. Cited from Dr. Michu.

"In another instance recorded of this morbid impulse to infanticide in a young mother, the propensity to destroy the infant would occasionally entirely subside for some days, and an equally strong tendency to suicide take the place of it.

"I have known persons, who, on taking a sharp weapon into their hands, would almost always experience a disposition to stab those who chanced to be near them.

"In view of such cases as have been cited, and very many of them will be found on record, some late eminent writers on mental diseases have admitted a form of insanity where the afflicted individual, without the slightest apparent disorder of the intellect, or any other discoverable mental aberration, and under a horrid conviction of the atrocity of the deed to which he is blindly impelled, and moreover devoid of all malicious intent, is attacked with a violent, and sometimes insuperable propensity to take life; often that of some particular individual, a friend, or perhaps one bound to him by the closest ties of kindred. This has been termed homicidal monomania and homicidal madness, and has been classed under a variety of mental disease, recently described, called moral insanity; that is, where the moral feelings only become perverted, the intellect, or reasoning principle, being no further affected than through the influence of their morbid excitement or perversion.

"It is to be remembered, however, that there is another form of homicidal madness dependant on actual hallucination, in which the individual is urged on to the commission of murder under a fancied command from heaven, or some other similar delusion of the imagination.

"It sometimes happens that this homicidal propensity of which I have been speaking is obviously connected with bodily disorder. Thus it has been preceded by headache, feverishness, thirst, obstinate constipation, pains, and other disorders of the stomach and bowels. A case is related where epilepsy, to which the patient had been subject during sixteen years, suddenly changed its character without any apparent cause, and in place of the fits there occurred from time to time an irresistible desire to commit murder. The approach of these attacks was sometimes felt for many hours, and occasionally for a whole day, before they actually seized the individual, and on such premonition he would entreat to be tied down, to prevent him from the commission of the crime to which he was blindly impelled.

"This propensity to homicide exhibits the same remarkable tendency to spread from the force of imitation, as we have previously shown exists in that to suicide. In proof of this, examples enough will be found on record. We are told that the trial of Henriette Cornier, in France, for infanticide—it becoming, from its peculiar, and deeply exciting circumstances, a subject of very general attention and conversation—occasioned in many respectable females a strong propensity to the same unnatural deed.

It is, in part at least, on this principle of imitation, that we are to account for the repeated attempts on the lives of Louis Philippe and Queen Victoria; and the unavoidable publicity of such attempts, and the factitious consequence into which their miserable authors are too often elevated, must serve to propagate the disposition to them.

"That unfortunate cases do now and then occur where persons acting under this insane impulse are condemned to the punishment of murder, is hardly to be questioned. Still, such morbid impulses should be admitted with a good deal of caution, or they would be too often pleaded to shield the murderer. Human justice is necessarily imperfect, and it cannot be otherwise than that some must fall the unmerited victims to its imperfection. The existence of such a morbid impulse may rationally be supposed when there is no motive for the crime committed, and when the perpetrator of it makes no effort to escape, or to screen himself from punishment."

With this extract we will close our notice, trusting that the reader has been favorably impressed in a degree sufficient to induce him to purchase the volume.

ART. XI.—*A Conspectus of the Pharmacopeias of the London, Edinburgh, and Dublin Colleges of Physicians, and of the United States Pharmacopeia, being a Practical Compendium of Materia Medica and Pharmacy.* By ANTHONY TODD THOMSON, M.D., F.L.S., Fellow of the Royal College of Physicians, Prof. of Materia Medica and Therapeutics in Univ. Coll., London, etc., etc. The Second American Edition, much enlarged and improved. Edited by CHARLES A. LEE, M.D. (From the thirteenth English edition.) New York, J. & H. G. Langley. 1843. 12mo., pp. 288.

To speak of the great merits of Professor Thomson's "*Conspectus of the Pharmacopeias*," at this late day, would be truly a work of supererogation. As an evidence of the high estimation in which the work is held by the profession, it is only necessary to refer to the fact, that in England it has passed through thirteen editions, and that this is the second in this country. As this unparalleled popularity is due to the circumstance that it comprises a complete summary, or comprehensive epitome, of Pharmacy and Materia Medica, we need not be surprised, now when it has been augmented one half in size by the judicious labors of the American editor, in bringing it up to the present state of the science, that it should have met with a success far exceeding the anticipations of the publishers. But we will allow the editor, Dr. Lee, to tell his own story, as regards the building up of this enduring little monument of industry and pharmaceutical knowledge:

> "In editing this work, the utmost care has been employed to supply every deficiency, and adapt it to the present state of pharmaceutical science. Advantage has therefore been taken of the recent publication of the new edition of the "*United States Pharmacopeia;*" and its improved processes, and new preparations, together with its nomenclature, will be found embodied in these pages. Thus, while the English edition has been left entire, no article mentioned in that standard work has been omitted, and many important indigenous medicines of the United States, therein overlooked, have been added. The editor did not feel at liberty to reject the processes of the London and Edinburgh Colleges, even where an improved process has been introduced from our own Pharmacopeia; in all such cases, both are given, for the purpose of comparison. As uniformity in the strength of medicine is of the greatest importance, it is unnecessary to recommend to the physician or apothecary to follow, as a general rule, the directions of the United States Pharmacopeia.
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> "If the process of *displacement*, as it is called, be adopted in the preparation of any of the Vinegars, Extracts, Infusions, and Tinctures, it should be recollected that it is a process requiring considerable skill and experience in conducting it so as to obtain uniform results; and it should not, therefore, be attempted without due regard to all the directions and precautions laid down in the Introduction. It is unfortunately too true, that our officinal medicines, when prepared with the utmost skill and attention, differ exceedingly in strength and activity. This new mode of filtration, moreover, cannot be conveniently practised by the country practitioner, who prepares but small quantities of medicines at a time; the former simple methods, therefore, will have to be generally pursued, while the application of the new is, for the most part, left to the professed chemist and scientific pharmaceutist.
>
> "If the present American edition be compared with the last London edition, it will be seen that more than one hundred pages have been added, and that all the 'New Remedies,' noticed by Dunglison, Wood and Bache, etc., have been introduced. A more extended sketch has been given of the 'Uses' and application of the different articles; the *Chemical composition* of a vast number of

substances, omitted by the author, has been introduced, upon the authority of Liebig, Kane, and Thomson; while numerous additional 'Formulæ,' 'Dietetic Preparations,' and various useful 'Tables,' have been added in the Appendix.

"The Editor, therefore, commends this book to the profession, in the full belief that it comprises an amount of information on the subjects of which it treats, not elsewhere to be found within the same compass in the English language."

As we do not intend to present an analysis of its contents, the following extract from the author's preface to the first edition will serve to show upon what foundation the whole superstructure rests:

"The multifarious and extended pursuits, in which both the study and the practice of medicine engage its followers, require that the memory be often refreshed, and the attention directed to circumstances, which, although in themselves of sufficient importance, yet might easily be forgotten or neglected. Every student of medicine who wishes duly to qualify himself for the exercise of his profession, endeavors to become acquainted with Materia Medica and Pharmacy, without which he might justly be regarded as employing dangerous weapons against the human constitution, instead of holding in his hands the salutary means of correcting the aberrations from health, and removing the bad effects of the accidents to which it is liable. But however assiduously this part of medical science may be studied, and although, by means of an intimate acquaintance with *Natural History, Botany*, and *Chemistry*, a correct knowledge of the nature and composition of each of the substances used in the cure of diseases may be attained, yet it is impossible that all these can be ever present in the memory, or always rise in it, at the moment when they ought to be prescribed. Hence many valuable medicines, which are successfully employed at one time, are forgotten at another; and, as there is a fashion in medicine as well as in other things, we find one generation extolling a remedy which is altogether neglected by the succeeding, or until some accident again restores it to favor. The principal use, therefore, of such a production as the present is to prevent this evil, by compressing into a small compass the most useful part of the information which is obtained from larger works; and, by affording a facility of re-examination, to keep in view remedies not constantly nor generally employed. To the young practitioner, and to him particularly, who has not had every advantage of education, it is more confidently offered; and the author hopes that to such it will not be unacceptable.

"It is intended to afford a compendious view of the improved editions of the three British Pharmacopeias, pointing out the circumstances in which they agree together, and those which are peculiar to each of them. The work of the London College has been taken as the text-book, and the formulæ of the compound articles, consequently, are quoted from it only; for if those of each of the Pharmacopeias had been separately given, the character of the volume would have been altered; and, instead of being a pocket manual, it would have swollen to the size and form of a Dispensatory.

"Under each article of the vegetable kingdom, the place it holds in the systems of *Linnæus* and *Jussieu* is stated, its original place of growth pointed out, and the term of its existence marked in the characters used by botanical writers. The chemical components of the different substances are taken from the Systems of Chemistry of the author's friends, *Dr. J. Murray* and *Doctor Thomas Thomson*, the papers of *Sir Humphry Davy*, the *Annales de Chimie*, and the valuable analyses of *Berzelius;* and the properties of most of the vegetable productions from the *Materia Medica à Regno Vegetabili of Bergius;* and from personal observation."

This volume is emphatically a pocket manual, not only as regards its bulk, but also in reference to its convenient *pocket-book* form.

Art. XII.—*Physiology vindicated, in a Critique on Liebig's Animal Chemistry.*—By Charles Caldwell, M.D. 8vo., pp. 110.

We take delight in looking upon an American book, especially a medical one, that is, a work characterized, as this is, by beauty of diction and profundity of thought. There are, indeed, few men in this country, or in any other, who stand on an equality with the author of the production before us, either in regard to the extent of his attainments in medicine and its collateral sciences, or in the happy facility of communicating the rich results of his experience and reflection.

The design of the author in this treatise, as he says, is rather *conservative* than *promotive*. Viewing chemistry, in its recent advances, as indicating a determination to usurp dominion over the whole philosophy of living organized matter, thus making forbidden aggressions on the province of physiology, both morbid and healthful, our author conceived it incumbent on himself to stand forth as the champion of the *philosophy of life*, against a new and formidable foe in the person of Professor Liebig. Believing that this celebrated German professor, with his host of propagandists, both in Europe and America, metamorphoses man, with all his attributes, corporeal and mental, into a mere *chemical product*, notwithstanding the declaration of his belief in the superintendence of vital laws, Professor Caldwell deems himself called upon, as a teacher of medicine, to protect truth from this steadily advancing deluge of error.

As this "critique" reached us at too late a period for an extended notice in the present number, we are obliged to restrict ourselves now to a few general remarks; but this we regret the less, as we purpose, in the following number, to give it a critical analysis.

The greater portion of this critique is devoted to an examination of Liebig's peculiar theory in relation to *vital* heat. This, according to the German philosopher, is the *result of combustion*. "In the animal body," he says, "the *food* is the *fuel;* and, with a proper supply of oxygen, we obtain the heat given out during *oxidation* or *combustion*." Hence, from this passage, and many other similar ones, it appears that Liebig's hypothesis of vital temperature is exclusively chemical; so much so, indeed, that he says, by way of illustration, that "the animal body acts, in this respect, as a *furnace*, which we supply with *fuel*." That vitality has no shadow of agency in the production of animal temperature, according to Liebig's theory, were further evidence necessary to prove that such is his opinion, is further established by the following quotations:—"There exists not, in the animal body, any other known source of heat, besides the mutual chemical action between the elements of the food and the oxygen of the air." Again: "chemical action is amply sufficient to explain *all the phenomena*."

In the examination of this part of the subject, we are free to express our decided conviction that the multiplicity of facts adduced by Prof. Caldwell are irreconcilable with every *chemical* hypothesis, including that of Prof. Liebig especially, respecting the production of *vital* temperature. Moreover, it cannot be denied that Liebig often makes the most hasty and unwarrantable generalizations, dashing at conclusions long before he has determined the *universality* of his facts. In addition to the numerous instances brought forward by Prof. Caldwell, we would just allude to another, in reference to the frequent occurrence of consumption in England. As the air in England is in a more condensed form than in warmer climates, and as the Englishman consequently respires more oxygen than the inhabitants of the latter regions, Liebig, at once, jumps at the conclusion that herein consists the greater liability of the Englishman to consumption; but, unfortunately for this premature deduction, it has been recently established statistically that, in the higher latitudes, as Russia, Sweden, and Canada, this disease is comparatively rare. We cannot help agreeing with Prof. Caldwell that Professor Liebig looks quite too much upon the animal organism as a mere machine, subject to the same physical laws which govern inorganic matter; and we venture to predict that the Professor of Giessen, high as his name must ever rank in chemistry, will one day regret that, before giving his pathology to the world, he did not test it by the infallible touchstone of experience.

There are some points in which Dr. Caldwell, perhaps, carries his objections a little too far. He is, for instance, unwilling to admit as proved, that arterial blood contains less oxygen than venous. "It is not," he says, "a *fact, the result of conclusive experiment.*" Now, regarding, as we do, Müller's Physiology as good authority, we would make the following quotation:—"From *various analyses* it appears then, that there is *less* carbon in the cruor of arterial blood than in that of venous blood, which would agree very well with the theory of the excretion of carbon in the form of carbonic acid from the lungs." To cite another instance, we would mention Caldwell's denial of the *penetrating power of gases* as respects living tissues, he maintaining that "they are conducted through by absorption, they themselves having no positive agency in the process. This we do not assert to be an *established truth;* but we regard it in the light of a *strong probability.*" Now, after the experiments of Dutrochet, illustrating the phenomena, designated by him "endosmose" and "exosmose," we did not suppose that the principle could be any longer doubted. "Gases and their fluids," says Müller, "together with the matters they hold in solution, permeate moist animal textures;" and he thus explains how it is that gaseous matters can enter into the blood during respiration, without the globules of the blood escaping.

Dr. Caldwell's criticism upon the style of Professor Liebig's book, pronouncing it "neither elegant nor scholar-like," we are obliged to consider hypercritical. As he read it in a translation from the German, under no circumstances do we conceive him authorized to condemn the original. We are not indisposed to admit, however, with Dr. C., that, as regards the translation, "its diction throughout is a tissue of studied *mannerism*—pedantic and affected, in most places, and in not a few, entirely *unintelligible.*"

We have been thus particular in referring to what we consider as slight blemishes in Professor Caldwell's critique, for the reason that we regard the whole as a production of very great merit; and we would add, that some of our book-publishers in this city might find it to their interest to present it to the public in a new, and, at the same time, *improved* dress.

Art. XIII.—*Practical Observations in Midwifery, with Cases in Illustration.*—By John Ramsbotham, M. D., late Lecturer on Midwifery at the London Hospital, etc., etc. Second Edition. London. 8vo., pp. 501.

This work, as the first edition was republished in this country, is not unknown to the American medical profession. Considering the high authority of the late Dr. Dewees, the following language used by him, in his advertisement to the American edition, is no small praise in its favor:—"He was so much pleased with Dr. Ramsbotham's work on Midwifery, that he thought he would be doing an acceptable office to the medical community in America, should he cause it to be republished. He believes he does not say too much when he declares it to be, in his opinion, one of the best practical works (so far as it goes), extant."

Unlike a general system on any science, in which the reviewer, if he does his work honestly, is obliged to examine the entire volume carefully, in order to determine what may be truly original, as regards tho suggestion of new practical hints or the solution of theoretical problems, we are here presented with a work consisting of the practical experience of a practical man; and these "observations" are restricted to special points, which have been particularly investigated by the author. It is investigations of this character that are especially calculated to advance medical science.

Were we disposed here to present an analysis of this valuable work, as we may on a future occasion, it would be scarcely material from what page we might extract, inasmuch as the whole partakes, in a high degree, of much practical experience on the part of the writer; and this, too, without any effort on his part to throw a veil over the unsuccessful portions. This book, by the way, ought to stand as a beacon to direct the future course of some writers we wot of, who record other people's experience without having much of their own.

It treats pretty much of the whole subject of obstetrics, without any regular nosological arrangement. Natural and preternatural labors, with all their complications, also abortion, rupture, and retroversion of the uterus, as well as polypus of the same organ, are brought fully under view.

Art. XIV.—*The Physical Diagnosis of Diseases of the Lungs.* By Walter Hayle Walshe, M.D., Professor of Pathological Anatomy in University College, London, Physician to the Hospital for Consumption, etc. Lea & Blanchard. Philadelphia: 1843. 12mo. pp.307.

That the study of the physical signs of diseases of the chest, distinct from the general or constitutional symptoms, has been, by many physicians, too exclusively pursued, cannot be denied. Looking upon the latter as of subordinate importance, the value of the former, as means of diagnosis, has been overrated. This innovation, like every other one in medicine, or in the arts and sciences generally, has experienced the reverses of good and bad fortune. First, immoderately decried, then, immoderately extolled—and now, perhaps, properly appreciated. That auscultation should have been opposed at first by the older practitioners, is noways extraordinary; for it is very natural to suppose that they would have no disposition to undergo the process of education a second time. At the present day, however, this aid to diagnosis, now that it has found its proper level, ranks among the most valuable of modern discoveries. Combined with a careful examination of the constitutional symptoms, the physical means of exploration often afford a certainty to the diagnosis of the thoracic organs, not less precise, perhaps, than if the organs themselves were submitted to the sight and touch.

We have here presented, within very moderate limits, a complete and comprehensive view of the existing state of our knowledge respecting the physical diagnosis of the diseases of the respiratory organs. Not only is complete justice done to the subject of auscultation, but that of percussion, which is generally dismissed quite too summarily, receives due consideration. Those other minor means of physical exploration, such as the inspection and mensuration of the chest, have also been treated of with proper attention.

Divided into three parts, this excellent work exhibits, in the *first*, "the various methods of physical examination, and the phenomena detected by them in the states of health and disease." The *second* part contains "a tabular view of the physical causes and ordinary seat of all morbid signs, in connection with the names of the diseases in which they occur; and also a synopsis of the signs attending each affection of the lungs, pleura, and larynx." The *third* part forms "a commentary upon the two preceding."

This work, it would seem, is the first in which all the different methods of physical examination have been fully considered. "If Laennec," says Dr. Walshe, "had the excuse of discovery for his almost exclusive and certainly over-weening attachment to Auscultation, as compared with other methods of Physical Diagnosis, his followers can offer no such brilliant apology for perpetuating, as they have too generally done, his unquestionable, and almost solitary, error."

This book, the price of which places it within reach of all, we can conscientiously recommend, both to the student and practitioner, as containing, upon every point, the most valuable and well-digested information.

Art. XV.—*Lithotripsy; or the Breaking of Stone in the Bladder.* By Alban Goldsmith, M.D., late Professor of Surgery in the Medical College of Ohio, and the College of Physicians and Surgeons in New York. New York: pp. 24.

The object of the author in this pamphlet is, in his own words, "to convince my professional brethren of the advantages which *Lithotripsy* has over *Lithotomy*." Dr. Goldsmith has devoted much attention to the subject of urinary calculi for many years:

> "I believe," he says, "that I can claim to have had as large an experience in stone as any surgeon of my date. The bulk of all the operations for stone in the western country was divided between Dr. Dudley, of Lexington, and myself. I can claim, too, as great success as any who has cut for stone in this country, but I always felt uncertain as to the result in the most favorable circumstances. Therefore, as soon as I heard of this operation of Lithotripsy, I went to Paris to test its practicability by personal observation; since that time I have practised Lithotripsy with gradually increasing success. I know that I could now manage many of the cases with ease, which in the early part of my Lithotriptic practice I abandoned to Lithotomy."

A brief history of the operation is presented, giving a view of the gradual improvement made in the instruments employed. The instrument which he regards as most universally applicable is that of Baron Heurteloup:

> "This instrument is simple in its construction; it is easily introduced, and can be carried with great facility into almost any part of the bladder. It can be made to grasp stones of any shape, and almost any size; and when the stone is soft, it may be broken by the pressure of the hand; or when it is hard, the hammer can be used. Any stone will yield to this force, when the blows are struck in quick succession for a length of time. When the stone is broken, small pieces are often brought away in the instrument; though this is hardly necessary, for the bladder will generally expel every particle that is small enough to pass through the urethra; and here I may remark, so well do patients know the presence of stone, that they will tell you when the last piece comes away."

Having given eight cases in illustration of the application of Lithotripsy, our author says in conclusion:

> "I could give other cases in which I have cut for stone since I have practised Lithotripsy, but I think and I believe I can advance testimony to bear me out in the assertion, that with my present knowledge and experience with the instrument, there are few cases in which I cannot break the stone. I base this declaration upon what is well known, an extensive experience in the treatment of calculous affections.
>
> "From the results of these cases it may be stated,
>
> "1st, That every person laboring under stone can be cured without risk of life, provided they apply at an early stage of the disease, and in the case of young children when they have not more than one stone.
>
> "2d, That Lithotripsy, as at present practised, does away to a great extent with a bloody, in all cases, dangerous operation.
>
> "3d, That it gives but little pain, and does not interfere with the avocations of the patient. It is certainly beyond dispute that it is a great improvement in surgery, giving easy relief to a large class of patients who have heretofore been doomed to linger out a life filled with torture, or submit to the hazardous ordeal of Lithotomy."

We are pleased to see a man of the surgical abilities of Dr. Goldsmith devoting his attention to this branch of surgery, and we are glad to learn that he proposes soon to present the profession with a more extended essay; and it is only on account of this intention, that we would refer, seeing the loose style in which the pamphlet before us is written, to the necessity of paying equal attention both to the *manner* and the matter.

Art. XVI.—*The Climate of the United States and its Endemic Influences; based chiefly on the Records of the Medical Department and Adjutant General's Office.* By Samuel Forry, M.D., New York: J. & H. G. Langley. 1842. 8vo. pp. 380.

Meteorology: Comprising a Description of the Atmosphere and its Phenomena, the Laws of Climate in general, and especially the Climatic Features peculiar to the Region of the United States, with some Remarks upon the Climate of the Ancient World as based on Fossil Geology.—By Samuel Forry, M.D. With Thirteen Illustrations. New World: 1843.

As regards the merits of these works, we will leave others to speak. We would, however, avail ourselves of the opportunity now presented, to return our heartfelt thanks to the press generally, not only throughout our own country, but in London, Dublin, Paris, and Hamburgh, for the manifestation of a spirit of more than ordinary kindness in the notices of the former work.

In view of the distinguished reputation of Baron Alexander de Humboldt, the introduction here of his opinion relative to our work on "The Climate of the United States," as expressed in his work on Central Asia, recently published at Paris, will not be deemed out of place:

"I regret," he says in his Introduction, "that I could not employ, for my comparisons of Asiatic climatology with the American, the *judicious researches* of Mr. Samuel Forry, in his book entitled 'The Climate of the United States and its Endemic Influences.' The map of Mr. Forry exhibits, *for the first time*, the *isothermal*, the *isocheimal*, and the *isotheral* curves between the South sea and the Atlantic. The American author has carefully discussed the differences of the climates to the east and west of the Alleghanies, and those of the local influence of the clearing of forests, and progress of tillage, on the mean temperature, whether throughout the year, or in the winters and summers."

PART THIRD.

1.

Foreign Medical Intelligence.

ANATOMY AND PHYSIOLOGY.

1. *Microscopic Researches in Anatomy.*—This subject is one of great importance to the medical inquirer; and, notwithstanding the fallacies to which this mode of investigation may lead, it cannot be denied that most valuable contributions have thus been recently made to minute anatomy and physiology; nor is it easy to set bounds to the wonderful results that may be revealed by future researches. We would advise the careful perusal of the following paper by R. D. Grainger, Lecturer on Anatomy and Physiology at St. Thomas's Hospital, as reported in the London Medical Gazette.

In accordance with the wishes of my colleagues, I have undertaken to give a brief description of the results which have recently been obtained in the science of anatomy by microscopic research. In the presence of several of the most accurate observers of the day, it might seem to be superfluous to point to the various departments of anatomy and physiology, animal and vegetable, which have been enriched by the contributions of English and Continental microscopists. It has, however, been considered, that as many of the gentlemen who have favored us with their presence this evening, and especially those unconnected with the profession, may not be so familiar with the progress of minute observation, a reference to some of the more important discoveries which have by this means been made, will not be altogether devoid of interest or utility. It must be apparent to those who have noticed, even in the most cursory manner, the rapid progress of microscopic research, that it will be impossible, on the present occasion, to enter into any detailed account of the isolated and various steps by which the existing knowledge on this subject has been attained. It must rather be my object to present to your notice a sketch of some of the leading facts which have been established by the labors of so many observers, and to point to a few of the more important inferences which the accumulated information we now possess seems to warrant.

Notwithstanding the great and important additions for which we are indebted to the microscope, it has been and still is, too much the custom to regard this instrument as more calculated to amuse the curious than to instruct the studious; as more fitted to amaze the ignorant than to enlighten the learned.

Many of those, again, who admit the importance of determining by microscopic investigation the structure of organized bodies, assert that the conflicting opinions of observers imply defects in the mode of investigation, which, until they have been more successfully rectified than has heretofore been effected, justify a doubt as to the accuracy of all such inquiries. But an unprejudiced consideration of what has been accomplished by the microscope will, I feel satisfied, convince you, that although these inquiries are, like all the higher departments of human knowledge, beset with difficulties, they have led to an infinitely more satisfactory acquaintance with the essential characters of organized bodies, and the laws of formation, than was formerly possessed. The most conclusive answer which can be given to all such objections is, that if it be admitted that the aim of the anatomist is to discover the true structure of the human body, he must either avail himself of the use of this instrument, which affords the only means of rendering the internal composition of the several organs apparent to the senses, or rest satisfied to abandon, as beyond his power of demonstration, those very parts of the animal frame which are of the deepest interest to the physiologist and practitioner of medicine. Let us suppose, for instance, that the student traces, by the most careful dissection, the arteries, the veins and tubes of the kidney, so far as they are visible to the naked eye, he will yet have discovered nothing of the complex machinery by which the secretion of urine is accomplished; and so, in fact, we might adduce every organ of the economy—the bones, muscles, and nerves, none of which can be displayed in their internal and essential parts to the unaided senses.

In proceeding to the more immediate object of this address, I would, in the first place, solicit your attention to some of those miscroscopic researches by which vegetable anatomy and physiology have been enriched. By selecting some of the more simple or cellular plants, where the typical structure is displayed unobscured by the addition of parts which, in the higher classes, renders the task of investigation so much more difficult, the botanist is enabled, with the assistance of the microscope, to demonstrate that tendency to the spiral disposition of the component parts, which so strongly pervades the vegetable kingdom. If, for example, we examine the different species of confervæ, it will be seen that the organic corpuscles are deposited in spirals.

A process evidently of the same kind was noticed by Schleiden, and has since been pointed out by Mr. E. Quekett, in the development of the vascular tissue of the higher plants. The latter observer has ascertained that the membranous tube which precedes the vascular tissue becomes charged with innumerable granules, which, after a short time, begin to adhere to the inner surface of the tube, assuming a spiral direction or form, and thus lay the foundation, as it were, for the vascular tissue. Again, if we watch the circulation of the chara, which, as a microscopic object, almost rivals in interest the circulation of the blood, something of the same kind is noticeable; that is to say, the little globules which indicate the currents going on in each cell of this plant, follow in the larger cells a definite spiral direction, so that while the globules describe curved currents, there are intervals, called by Dutrochet lines of repose, where no motion takes place. In these instances we have an opportunity of perceiving, in its simplest but most evident manifestation, that spiral form which is so eminently displayed in the whole vegetable kingdom.

And here I would remark, that one of the most important principles established by modern research is, that the anatomist, in determining the fundamental character of any organ, must seek for it in the lower forms of organic beings, where the typical structure is displayed in all its simplicity.

Another important addition to vegetable anatomy was the discovery, by Schultz, of the vessels by which the circulation of the elaborated sap, or latex, is accomplished. Previous to these researches nothing could be more unsatisfactory than our knowledge respecting the channel by which that fluid, which is to the plant what the arterial blood is to the animal, was carried to the organs which it is designed to nourish. The existence and actions of these vital vessels, as they were called by Schultz, have been almost universally admitted; there are, however, some careful microscopic observers who have not been able to satisfy themselves that a true circulation does, in reality, go on in the vessels we are describing. One gentleman possessing a very superior instrument, has repeatedly sought for the currents described, but so long as his observation was confined to the living plant in an unmutilated condition, no motion could be seen; but on making an incision, movements, which were attributed to the escape of the fluids, were observed. Without dwelling further on this point, I would only remark, what is familiar to many who are present, that motions are occasionally seen in fluids which have been mistaken for vital phenomena, although they, in reality, depend on physical causes, such as those seen in red particles when a drop of blood is placed in the field of the microscope, or in the capillary vessels of the frog's foot when severed from the body.

I have now to allude to a series of investigations which have thrown a new and unexpected light on some of the most important laws which regulate the growth or formation of organized structure. I refer to the anatomy and physiology of cells. Although so much has been written upon this subject, a brief notice of the discoveries of Schleiden and Schwann may, perhaps, be permitted on this occasion. The first great truth which these investigations have revealed is, that although nature displays infinite variety in the secondary formation of animals and vegetables, yet that in the primary development of the several organs, one form alone, that of a nucleated cell, is observed. The mode of origin of this primordial cell appears to be as follows: the minute granules existing in the primitive plastic, but as yet unformed substance, aggregate together, and so form a small and usually disc-shaped body, which, being the rudiment or origin of the future cell, was called by Schleiden the *cytoblast*, or cellgerm, though the term of nucleus, first given to this body by our distinguished countryman, Dr. Robert Brown, is still very generally retained. According to Schleiden, it is doubtful if the cytoblast is in reality the true germ of the cell; for he remarks, that in the cytoblast itself a minute, sharply defined object, presenting the appearance of a thick ring, or thick-walled hollow globule, is observed, which, forming even earlier than the nucleus, is called the *nucleolus*. From the surface of the cytoblast there rises subsequently a thin transparent vesicle; and this it is which constitutes the walls of the cell. The celebrated German anatomist, Schwann, has demonstrated that the same identical phenomena which thus occur in the vegetable are also exhibited in the animal kingdom: and thus we learn, that whether a corpuscle of blood, a fibre of muscle, a filament of nerve, or a vessel, is destined to be formed, the foundation of each is a cell containing a nucleus, which, undergoing a series of transformations, may be ultimately converted first into a tube and then into a fibre.

This is a brief account of one of the most brilliant discoveries which, perhaps, has ever been made in connection with the science of organization. The great principles it establishes respecting the formation of animal and vegetable tissues have been universally adopted, although some modifications, and those not unimportant ones, have been introduced by other observers into the theory originally announced by Schleiden and Schwann. Those physiologists supposed that the nucleus or cytoblast, having performed what they conceived to be its specific office—the formation, namely, of the cell, was cast off as useless, and absorbed. Further inquiries, both in Germany and England, have shown, however, that the nucleus is a much more important organ than was originally imagined. Thus Rosenthal contends that the nuclei serve to the reproduction of the organic tissues, by becoming elongated into fibres; and Reichert, although he condemns this theory as hypothetical, conceives that Rosenthal's inquiries have shown that the nucleus does not disappear in the manner stated by Schwann. It is, however, in this country especially, that the importance of the cytoblast has been shown by Dr. Martin Barry. This distinguished observer contends, that instead of being removed after having formed the parent cell, the nucleus becomes the source of new cells; and as it is capable of dividing or multiplying itself, and of thus giving origin to objects endowed with the same properties as itself, the nucleus possesses in this kind of vegetative growth an almost illimitable power of increase. Without entering into the merits of this question, I may be allowed to point out, that although the power possessed by the primary cells, and by the tubes proceeding from them, of absorbing new matter and depositing this in their interior, was known to Schleiden and Schwann, as, for instance, in the formation of the spiral vessel of the plant, and of the muscular fibre in the animal; yet to Dr. Barry belongs the great merit of fixing the attention of physiologists on one of the most important points connected with the history of cells, the independent power, namely, in virtue of which they may increase almost *ad infinitum*. It is endowment which is more particularly interesting to the physiologist and to the pathologist, as it is calculated to explain many of the phenomena connected with nutrition and secretion, as well as the growth of carcinomatous and other tumors.

This reference to the formation of the nucleated cell naturally leads me to speak of the ovum, for strange as it may appear to some of my auditors, the new being or embryo, like all its individual parts, springs from a cell, or more correctly from its nucleus, called the germinal vesicle, or, from its discoverer, the vesicle of Purkinje. The limits of this paper are quite insufficient to allow me even to glance at those minute and extended researches, including numerous microscopic observations, by which our knowledge of embryology has been so remarkably enriched. I will merely call your attention to those admirable investigations of Dr. Barry, which have established, among so many other valuable results, the fact, that by a process precisely the same as that described as taking place in the nucleus of the cell, the minute object discovered by Wagner, and called the germinal spot, gives origin to incipient cells which fill the whole of the interior of the germinal vesicles. Ultimately, two of these cells enlarging constitute the true germ, and then, each giving origin to two other cells, the number becomes 4, 8, and so on, increasing in the ratio of geometrical progression.

The contributions to the minute structures of the various tissues are so varied, that the science of general anatomy has, within a comparatively short period, assumed a new and more important aspect; there is indeed no class of organs which has not been most carefully investigated. So extended have been these researches, that to notice them would require me to speak of every texture of the animal frame, and would thus lead to details altogether incompatible with the limits of this address.

By the judicious employment of the microscope, aided by minute injection and comparative anatomy, the characteristic corpuscles of bone, the peculiar tubuli of the teeth—and here I would especially point to the researches of Professor Owen on the dental organs of existing and extinct animals—the general structure of glands, the epithelium and cilia of mucous membrane, the ultimate fibrilla of muscle, the fibre of nerve, and the various fluids, normal and abnormal, have either been satisfactorily investigated or greatly elucidated.

Among these extended inquiries one or two subjects only can be briefly noticed. The discovery which perhaps promises the most important results is that of Henle, respecting the existence of a new element in the mucous and even serous membranes—"the epithelium." By this term, as now understood, is meant a layer of particles, which are generally considered to be modified nucleated cells, and which are essentially of the same nature as those of the epidermis. Their form and number vary remarkably in the different organs, where they are examined; for it must be understood that these peculiar bodies, although in some situations few in number, or even altogether absent, generally extend into the most minute divisions of the serous and mucous membranes; as, for instance, into the small tubuli of the secreting glands. They have been divided by Professor Henle into the tesselated, the cylindrical, and the ciliated. More lately, however, Bowman has ascertained that those called by Henle cylindrical are, in fact, prismatic in form: and he has added a fourth class, the spheroidal. As to number, in some organs, as in parts exposed to pressure—the mouth, the pharynx, œsophagus, and vagina, for instance, and especially in the glands, where they seem to form almost the whole mass of the mucous membrane of secreting tubes—they are most abundant; whilst in other regions, as the Eustachian tubes and tympanic cavities, they are more sparingly distributed.

Late observations tend to show that these bodies take an active share in the process of secretion; indeed, if the researches of Mr. Goodsir be substantiated, it will be necessary to conclude that the epithelial nucleated cells are the immediate agents of that process. Mr. Goodsir conceives that the wall of each cell is the part which performs the secreting, and that the cells, when they are full, give way, and so pour the fluid into the beginning of the excretory duct. This theory implies the incessant destruction of the epithelium cells, which are supposed by Mr. Goodsir to be in a constant state of development, maturity, and atrophy.

One of the most curious facts connected with the epithelium is the existence, on its free or unattached surface, of an immense number of microscopic hair-like filaments, called cilia. These minute bodies, which present, when in action under the microscope, a beautiful spectacle, and of which so excellent an account has been given by Dr. Sharpey, although most abundantly distributed, are by no means co-extensive with the epithelium. They abound in all the lower classes of animals, even on the surface of some embryos, and especially in the mucous surfaces and passages. They have been lately discovered in most unexpected situations, as on the lining membranes of the cerebral ventricles, where they were first seen by Purkinje and Valentin; and on the surface of the pericardium and peritoneum in some of the lower animals; they have been doubtfully seen in the interior of the nerves by Valentin and Remak. One of the latest discoveries of these bodies is that of Mr. Bowman, who has seen them in action within the orifice of the secreting tube of the kidney.

The last subject, gentlemen, to which I shall direct your attention in connection with the investigation of the tissues by the microscope, is that relating to the ultimate structure of the muscular fibre, and as this is a point which at the present moment commands the attention of microscopic observers, I may perhaps be permitted to dwell upon it somewhat less briefly than on the topics previously noticed.

The allusion which I made in the former part of this paper to the spiral arrangement in the vegetable kingdom, will tend to show the great importance of that disposition in one of the grand divisions of the organic creation. There are many facts familiar to botanists which will throw light on some views presently to be noticed, respecting the presumed existence in the animal kingdom of a similar principle of arrangement. It is known, for example, that by carefully tracing the spiral tissue of the plant through the several stages of its first development, and of its subsequent transformations, it can be demonstrated that various and sometimes even apparently most anomalous forms, such as annular vessels, dotted ducts, and reticulated cells, are produced simply by modifications of the fundamental or typical spiral fibre.

Now the animal kingdom presents, as it would seem, an exactly parallel transformation, in the structure of the breathing tubes or tracheæ. In the class insecta, it is familiarly known that the tracheæ, instead of being composed, as in man and the other vertebrate animals, of interrupted and imperfectly closed rings, consist of a continued spiral and round filament. It has, however, been noticed by Burmeister, that in larger tracheæ, as in those of the locusta viridissima, the thread loses its cylindrical, and assumes a flattened form; and Sprengel has further ascertained the interesting fact, that in such larger tubes the spiral becomes interrupted, and forms, as in the apparently similar case of the annular ducts of plants, perfectly closed rings. But the exquisitely beautiful structure seen in the bilobed tongues of the musca vomitoria, or common horse-fly, affords a more palpable demonstration of this transformation of a continual spiral; for you will distinctly perceive that whilst the larger tubes of this remarkable organ are formed like the ordinary tracheæ of insects, that is to say of a continuous filament, the smaller tubes proceeding from it are composed of imperfect rings, of a horse-shoe form, and presenting in their divaricated extremities a peculiar percate appearance. When to these facts we add, that in one of the herbivorous cetacea, namely the dugmy or fabled mermaid, the trachea is composed, as in insects, of the coils of a continuous cartilage, there can remain little doubt that the interrupted and imperfect rings of the windpipe of the vertebrata generally are in reality developed on the principle of a spiral.

A celebrated microscopical observer, M. Mandl, contends that a spiral arrangement is also observed in the cutaneous appendages of animals, as in the barbs and barbules of feathers, in the scales of fishes, and in the growth of hair.

Having thus cursorily noticed that there are evidences of a spiral arrangement in the animal kingdom, I may state that Dr. Barry conceives that this disposition is more or less displayed in the various fibrous organs of the body, and consequently in the muscular fibre. Most of the microscopic observers of muscle, from Leuwenhoeck, Borelli, and Hooke, to those of the present day, have however contended that the ultimate fibre is composed of a series of particles which have been variously compared to a line of beads, pearls, &c. The corpuscular theory has been lately supported by Mr. Bowman, in the admirable paper he has given on the structure of muscle. He supposes that the primitive fasciculi, or bundles of voluntary muscles, consist of elongated polygonal masses or particles, which bodies thus compose the primitive fibrilla.

According to Dr. Barry, whose views on this subject are familiar to many present, the ultimate muscular fibre is composed of a double spiral filament, which, for the sake of illustration, might be compared to the two strands of a twisted rope, to which objects, indeed, the fibre, when seen under the microscope, often bears a striking resemblance. In examining different specimens single spirals are occasionally seen, presenting in some instances an appearance exactly like the turns of a corkscrew; but the fully formed fibrilla seems, according to the account and drawings published, to be composed of two spirals. The formation of the spiral fibre of muscle and other organs, is first developed, according to Dr. Barry, in the red particles of the blood, of which process he has given a minute account. The plates in the Philosophical Transactions represent a coil of disc-like bodies, variously disposed within the elliptical corpuscles of reptiles, and the circular particles of the mammalia. And here I may mention, that it is an important part of Dr. Barry's general theory respecting the high importance of the cytoblast of nucleated cells, that the coils just mentioned are produced by the division and multiplication of the nucleus of the red particle.

Such are the accounts of two other most recent observers of the muscular fibre. It would, of course, be presumptuous indeed to attempt to decide the question; I will therefore merely mention one or two circumstances which may throw some light on this subject. That there is a peculiar spiral connected with the muscular tissue, is now admitted by the best observers. Dr. Barry has figured in one of his plates a spiral fibre wound around a fasciculus; and some months previous to the announcement of Dr. Barry's researches, Dr. Leeson had discovered and demonstrated to some gentlemen connected with the hospital a spiral of the same character, that is to say, wound around a primitive fasciculus. This seems, as far as I can judge from several examinations, to correspond in position to the delicate transparent sheath of the primitive fasciculus so beautifully demonstrated by Mr. Bowman, and called by him the sarcolemma. A few evenings since I was present when Dr. Leeson showed his spiral to Mr. Bowman and Mr. Busk, when the former gentleman, with perfect candor, admitted it was a structure he had never seen before. But you will observe, gentlemen, that this part of which I am now speaking does not touch the main question—the nature, namely, of the ultimate *fibre;* for the spiral demonstrated by Dr. Leeson surrounds the primitive *fasciculus.* At the time mentioned, however, Dr. Leeson had satisfied himself that the ultimate fibre itself consists of a spiral.

It is proper to notice, that in the year 1838, M. Mandl must have seen something of the same kind; for he states, though this part of his account is incorrect, that the well-known transverse striæ seen on the muscular fasciculi are merely the coils of a band of cellular tissue, *spirally* disposed around the ultimate filaments.

I had intended to have pointed out some of the applications of the microscope in the investigations connected with physiology and geology; but I find that I have already so far exceeded the limits prescribed for this address, that I have only time to briefly call your attention to a subject immediately connected with our meeting this evening—namely, minute injection. Although some of the older anatomists, and especially Ruysch and Lieberkuhn, greatly excelled in this beautiful art, which subsequently fell in some degree into disuse, it is proper on this occasion to state that several zealous cultivators of minute anatomy have lately succeeded in displaying, with a perfection which may vie with any preceding productions, the most delicate ramifications of the blood-vessels. Through the kindness of Mr. Dalrymple, Mr. Bowman, and Mr.

Quekett, of the College of Surgeons, I have had frequent opportunities of inspecting the various organs thus prepared; and I think that those gentlemen who may this evening examine the vascular preparations made by Mr. J. Quekett, will coincide in the opinion that he has attained all that the art of injection, so far as displaying the disposition of the vessels is concerned, can effect. By the demonstration of the vessels thus afforded, it has been ascertained that they observe a special arrangement for each organ: thus, there is one character for the respiratory organ; a second for the mucous surface of the stomach; a third for the small intestine; and so forth.

The combined use of the microscope and minute injection is evidently introducing a new era into the history of anatomical preparations. The existing museums, although most valuable for illustrating the more demonstrative branches of anatomy, and the coarser changes induced by disease, are, in fact, insufficient either for the elucidation of the ultimate structure of the human body, or for the detection of the essential changes induced by morbid action. A well-assorted collection of injected organs, normal and diseased, and of sections and other specimens displaying the intimate structure, all of which might be contained in a small cabinet, together with a superior achromatic microscope, would do more to convey to the student a real knowledge of the human organization, than an imposing display of magnificent rooms filled with bottles, which in every sense may be said to be hermetically sealed.

2. *On Menstruation.*—M. Raciborski, in a letter to the Academy, details the results of his researches on menstruation, of which the following are the most important.

1. There exists the most intimate connection between the Graafian vesicles and menstruation. When these vesicles arrive at their full development menstruation commences, and when they are destroyed menstruation ceases.

2. At each menstrual period a follicle projects like a nipple on the surface of the ovary, where it afterwards bursts, without requiring for that purpose an erotic excitation.

3. The rupture of the follicles in general appears to take place just at the period when the menstrual discharge is stopping.

4. The ovaries do not act alternately, as has been affirmed; they do not seem to be under any fixed law as to this.—*Edinburgh Medical and Surgical Journal*, April, 1843, from *Bulletin de l'Academie Royale de Medecine*, Jan. 1843.

MEDICAL PATHOLOGY AND THERAPEUTICS.

3. *Application of the Microscope to Pathology.*—Pathology, like physiology, has received a rich harvest of illustration from the microscope; though in this department, science may be regarded as in her infancy. Our knowledge with regard to cancer and the so-called malignant diseases, has been greatly enhanced by the labors of Müller and Kiernan. The discovery of the cellular origin of the embryo and of all animal tissues, both normal and abnormal, throws a brilliant light on the general anatomy of disease. I may render this point interesting to you, by mentioning the curious discovery of the cellular structure of the bright yellow, cup-like crusts of ringworm (*favus.*) This crust has been shown by Dr. Gruby, of Vienna, and Dr. Gruby's observations have been verified in this country by Dr. Hughes Bennett and Mr. Busk, to be a capsule, composed of two layers, an outer stratum of epidermic scales, and an inner stratum of yellow homogeneous granular substance. The cavity of the capsule is filled with elongated cells, connected by their extremities, and constituting a ramified interlacement of hollow cylinders, which Dr. Gruby regards as a vegetable formation, a cryptogamic plant, belonging to the genus mycodermist. The terminal cellules retain the ordinary form of cells, being very little longer than their breadth, and these Dr. Gruby considers to be the seeds or sporules of the plant; so that favus, according to this author, is a disease communicated by the transmission of seeds, and these latter falling in a situation favorable for

their development, take root and grow. Dr. Gruby adds to this narration the singular observation, that he has succeeded in reproducing the mycodermis upon a plant by inoculating its tissues.

A microscopical discovery not less remarkable than that of Dr. Gruby, has been made during the present year, by Dr. Simon, of Berlin. It consists in the detection within the small mass of sebaceous substance which collects in the follicles of the skin, and becomes darkened at its extremity, and to which we give the name *comedo* or *grub*, of an articulated animalcule of considerable size.

During the summer I have examined several hundreds of these animals—they are obtained without difficulty, being found in almost every collection of sebaceous substance which can be squeezed from the skin; and they have been termed by Dr. Simon *acarus folliculorum.* According to my observations, the animalcule is about 1-100th of an inch in length, and about one-fifth of that measurement in breadth. It has a head provided with mandibles, and two large maxillary palpi; a thorax, the largest part of the animal, with eight stout legs; and a lengthened abdomen, composed of annular segments, which overlap each other from before backwards. The head is capable of retraction within the chest; its movements are slow but powerful; and it undergoes transformation during its development, frequently exuviating its epidermis. It is worthy of remark, that this singular creature gives rise to no morbid irritation of the skin, exciting at most a very trifling degree of itching.—*Dr. Wilson's Introductory Lecture at the Middlesex Hospital,* in *London Lancet.*

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4. *A large Biliary Calculus, voided by the Rectum.*—At the sitting of the Royal Medical and Chirurgical Society, on the 14th of February, 1843, Dr. James Arthur Wilson, Physician to St. George's Hospital, gave an account of an unusually large biliary calculus, voided by the rectum.

The patient, in this case, was a gentleman, aged seventy-three, of temperate habits, and who had resided in the West Indies the greater part of his early life. The calculus was voided with fluid fæces from the rectum, after many days of exhaustion by hiccough and vomiting. The early symptoms were constipation, loss of appetite, and sickness, succeeded by jaundice. Within a fortnight the urine and fæces recovered their natural appearance, the jaundice disappeared, and the patient resumed his usual pursuits. Shortly, however, all the urgent symptoms returned, with frequent severe hiccough, and for two days the case seemed to be verging to a fatal termination. On Dec. 17, the bowels, long previously inactive under large doses of purgatives, began spontaneously to relieve themselves, and gave passage to a calculus as large as a full-sized walnut, when all the urgent symptoms gradually and entirely subsided.

The author alludes to another case which occurred at St. George's Hospital, in which, after death, "a round calculus as large as a walnut" was found impacted in the ductus communis hepaticus. He concludes by observing, that there is an inference from these cases of biliary concretion that may with advantage be remembered in our diagnosis of jaundice and constipation, viz. that the progress of gall-stones through the ducts (even when inordinate in their dimensions), is not disproved by the absence of pain in the epigastrium.—*London Med. Gazette.*

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5. *Remarkable Case of Congenital Small-pox.*—A woman, twenty-four years of age, entered the maternity Hospital in Paris to pass her first confinement. Labor commenced two days after her arrival; and after the lapse of fourteen hours (*jours*, says the original, but this is evidently an error) she was delivered of a female child. The face, scalp, and different parts of the child's head were covered by a pustular eruption, which was soon recognized to be veritable small-pox. The mother retained the marks of vaccination, and stated that she had never had the small-pox; nor during her pregnancy had she had any connection with persons suffering under that disease, nor even heard of its

prevalence in her neighborhood. Only about eight or ten days before, she had gone to see a patient at La Pitié, near whom lay another patient in the small-pox. She had paid no attention to this circumstance till recalled to her recollection by minute inquiries. No untoward effects ensued, either to mother or child, and both left the hospital in perfect health soon afterwards.—*London Lancet*, from *Bulletin de l'Acad. Royale.*

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6. *On Revaccination.* By M. Tommasini.—The epidemics of small-pox, which have appeared in various parts of Italy during the last few years, have afforded Italian practitioners an excellent opportunity of studying many points connected with it. All the medical men, and M. Tommasini in particular, agree in stating that the persons attacked by small-pox after vaccination were either adults or individuals who had been vaccinated for many years previously. When the disease occurred in children recently vaccinated it was simple varioloid or varicella. From the facts thus observed the celebrated professor of Italy concludes that the preservative influence of vaccination lasts about ten or twelve years; hence, he advises that revaccination should be had recourse to after the lapse of this period.—*Prov. Med. Jour.* from *Il. Ra. Med.*

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7. *Report of the Results of Inoculation in Measles.* By M. Von. Katona of Borsoder in Hungary.—In a very malignant and wide-spreading epidemic of measles during the winter of 1841, M. Von Katona inoculated 1122 persons with a drop of fluid from a vesicle, or with a drop of the tears from a patient laboring under that disease. The operation was performed in the same manner as the inoculation for small-pox. It failed in seven per cent. of those on whom it was tried; but in all the rest produced the disease in a very mild form, from which not one died. The puncture was generally immediately surrounded with a red areola, which, however, soon disappeared. On the seventh day fever set in with the usual attendant premonitory symptoms of measles. On the ninth or tenth day the eruption appeared. On the fourteenth desquamation commenced, with decrease of the fever and eruption; and by the seventeenth the patients were in general well again.—*Edin. Med. and Surg. Jour.* from *Oester. Med. Wochen.*

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8. *Microscopic Characters of Albuminous Urine.*—Albuminous urine, when viewed under the microscope, exhibits granules and corpuscles of various form and size, the larger of which might be mistaken for the pus-globule by careless or inexperienced observers. The true source of these bodies is, in all probability, the serum of the blood, which is found to deposit analogous granules and corpuscles when diluted by a liquor of light specific gravity, which may easily be proved by pouring distilled water on serum, and submitting to the microscope the precipitate which collects after a few hours have elapsed. In other respects coagulate urine presents the ordinary appearances under the microscope, the solid ingredients or crystallisable products exhibiting, when present, the usual characteristics. Some specimens show very well the large form of granulated mucous globule known as the secretion of the prostate gland.—*Dub. Med. Press* from *Guy's Hospital Reports.*

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9. *Hoarseness and Aphonia treated successfully by the external application of Croton Oil.*—In Hufeland's Journal, and in the London Medical Gazette, extraordinary cures of this kind are related. Hoarseness, the reduction of the voice to a mere whisper, and not unfrequently complete aphonia, often occur from a variety of causes; such as from laryngeal and tracheal inflammation, from long speaking and singing, or sometimes, in irritable and delicate females, from a mere fright. In these cases, it seems that the simple rubbing of two or three drops of Croton oil into the skin covering the larynx, twice a day, until pustules make their appearance, causes a speedy cure. A case is related of a

member of a German operatic company, who, from exposure to a damp and foggy night, became so hoarse as to lose all command over his voice, and to be, indeed, at intervals, completely aphonic; and yet the voice of this individual was so entirely restored on the third day, that he felt himself enabled to sing that evening in the opera; and this he actually did with much *eclat.* As the cutaneous eruption may so spread in delicate persons as to affect the general system, it ought to be applied to a very small surface only of the skin; and when the pustules have once made their appearance, it will be sufficient to apply the oil but once daily, or on every second day. This remedy has been successfully used in cases, in which the aphonia had resisted all other known means. It has been supposed, though not on sufficient evidence, that Croton oil, in curing hoarseness and aphonia, acts not only as a counter-irritant, but through some specific agency on the pneumogastric nerves, especially the laryngeal branches.

10. *Potatoes a preventive and cure for Scurvy.*—Much has been said of late in France and England of the value of this vegetable, in the prevention and cure of scorbutic disease, administered several times a day, in its *raw state*, but scraped sufficiently fine to make it digestible. It seems to have been amply tested among the seamen of the French navy. In the United States army, however, this is no new remedy in scorbutus. Thus, in the first quarter of 1821, there were sixteen cases reported at Fort Crawford, Prairie du Chien, of which two terminated fatally. The medical officer, in his report, according to the "Medical Statistics of the United States Army," speaking of the employment of "*raw potatoes and vinegar*," says:—"I selected four or five of the worst cases, which had received no alleviation from the use of the nitre and vinegar, and directed each one to eat per day a common soup-plate full of the potato sliced down in a sufficient quantity of vinegar. It had an immediate effect on the stomach, which recovered its natural vigor; the bowels became regular, the pains abated, the stricture of the tendons was overcome, the ulcers put on a healthy aspect, and, in a few days, the patient found himself in a happy state of convalescence."

MATERIA MEDICA AND PHARMACY.

11. *Quinia.*—In regard to this therapeutic agent, there has been, within the last year or two, quite a revolution of opinion with a considerable part of the profession. Much unreasonable prejudice has, indeed, always existed against this medicine, even when given in the small doses directed by standard writers; but now there is danger of the opposite extreme, it being given in doses from a scruple to a drachm; and more than this, instead of regarding it as a powerful tonic admissible only when there is a perfect intermission of a fever, it is administered without reference to the intermission, remission, or exacerbation. In the London "*Medical Times*," for the 11th of March, in an article by John Foote, Esq., "On the Improvements in Materia Medica and Pharmacy during the Past Year," we find the following paragraph relative to this question:

> "Dr. Lugeol, of the Havannah, has signalized an interesting fact occurring from the internal exhibition of large doses of quina: it has in many cases caused deafness, which has continued for two or three days. His statement has been confirmed by other physicians, and a case of permanent deafness has never been induced by it. The sulphate has been recently tried to a very great extent, and in enormous doses, in Paris in the treatment of acute rheumatism and of typhoid

fever. Several cases are recorded where the patients recovered; but others again have been published, from which it is clear that the unfortunate sufferers died from the poisonous effects of the overdose of quina, of quininism in fact. Dr. Meirieu of Saint Gilles, recommends as a substitute for the simple sulphate of quinine in the treatment of disease, a mixture containing that salt in solution, and charged with an excess of carbonic acid gas. He considers that the quina is rendered more soluble, acts with greater energy, and in a smaller dose (*Bulletin de Therapeutique*). Other compounds of the alkaloid of the cinchona have been introduced into notice by Prince Lucien Bonaparte, under the title of the lactate and valerianate, and are said to have been found serviceable in practice, but cannot come into general use on account of their high price."

In France, this new method of treatment, more especially as regards rheumatism, seems to have been carried to an unwarrantable extent. In a letter from Dr. F. Campbell Stewart, (now of this city), from Paris, to the "Medical Examiner" of Philadelphia, it appears that Dr. Briquet, one of the physicians to the Hopital Cochin, lately published an account of eighteen cases of acute articular rheumatism, which had been completely cured by very large doses of quinia. The practice was immediately generally adopted in Paris; but in a short time, the zeal of those in favor of this new practice was damped by the death of five persons, evidently produced by the ingestion of these enormous doses of quinine. Two of the cases occurred in the wards of Dr. Briquet himself. In a recent number of the *Gaz. des Hopitaux*, we observe another case of acute articular rheumatism, in which death followed the administration of large doses of the sulphate of quinine. On the first day, three grammes (fifty-six and a half grains) were prescribed by M. Recamier, in twelve papers, one to be taken every hour, from which no bad effects resulted. On the next day, the pains were diminished in the lower extremities, but were more severe in the wrists; and on this day five grammes (seventy-seven grains) were prescribed, to be taken in the same manner as before; but, by the time the patient had taken three and a half grammes, he was suddenly seized with extreme agitation, followed by furious delirium; and in a few hours death occurred. Dissection revealed the signs of a general and most intense meningitis. A similar but less disastrous case occurred under the care of M. Husson. These may be considered cases of quininism.

In our own country, however, and especially by the surgeons of our army, the salts of quinia have been used, during the last few years, in enormously large doses, in cases of remittent, and especially of intermittent fever. Among the troops stationed in our malarial regions,—on the great lakes, the Atlantic plain, (particularly in Florida), and in our south-western region—the means of observation have been quite extensive; and the result has been that the views of a large majority in regard to the operation of the salts of quinia, (the sulphate being nearly always employed), have become completely changed in favor of large doses. Seeing the great importance of this question in a practical point of view, we purpose collecting facts from several sources in different parts of our country, in the hope of being enabled to arrive at some definite conclusions.

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12. *Oleum Jecoris Aselli, or Cod-Liver Oil.*—This article, which is easily prepared and quite moderate in price, promises to prove an important therapeutic agent, especially in certain forms of gout, rheumatism, and scrofula. A treatise in octavo, pp. 180, by John Hughes Bennett, M.D., has been recently published in London. In Germany, it has come into general use; and in England, it appears that it has been occasionally employed, fifty or sixty gallons

having been annually consumed, about half a century ago, in the Manchester Infirmary. In Germany, numerous monographs have appeared on the subject, it having a place in most, or perhaps all, of their pharmacopœias. Thence its use has spread into Belgium and France, and still more lately into England, where the remedy, as regards its former use, seems to have died a natural death. In Germany, it is regarded as a specific in gout and rheumatism; and its use there, in these diseases, is at present universal, as we infer from the following extract from Schenk, who has extolled its virtues in two monographs:

"It heals all chronic painful affections of the human body, wherever they are seated, whether internal or external, if they have originated in rheumatism or gout, as surely and as certainly as bark cures intermittent fever, or mercury the venereal disease."

In regard to dose, one or two table-spoonfuls may be taken by an adult twice or thrice a day; and in painful affections of the joints, it is also applied externally.

It may be well to add that it is used *extensively*, as an article of diet, by the Laplanders and Shetlanders,—a fact that does not speak much in favor of its very active virtues.

As this oil, as well as that of the skate, contains a considerable portion of iodine, it is quite probable that its virtues are entirely due to this active agent. This, however, is denied by Klencke, who, as well as Acherson, has written a monograph upon this subject. Cod-liver oil, according to Klencke, owes its power of improving chylification to certain qualities which it possesses in common with bile.

Recently an improved method of administering the cod-liver oil, as appears by the "*Pharmaceutical Journal*," has been suggested by Dr. Ure, consisting in the use of the cod-livers as a diet for patients. Having himself been advised to take cod-liver oil, he contrived to rid it of its nauseous flavor, which he found very objectionable. To prevent the loss of oil during the process of cooking, he directs the livers to be immersed entire in boiling water, containing a quantity of salt sufficient to raise the boiling point to about two hundred and twenty degrees of Fahrenheit. As the albumen of the liver is coagulated by the sudden application of this high temperature, the escape of the oil is thus prevented. The liver being now cut, the oil exudes, when mashed potatoes may be used as a vehicle.

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13. *Summer-Plant-Winter-Worm.* By JONATHAN PEREIRA, M. D., F. R. S.—The following brief notice of a remarkable and very interesting natural production, which is highly valued in China as an article of the Materia Medica, may not be uninteresting to the members of the Pharmaceutical Society.

The production to which I allude is partly animal, partly vegetable. It consists of a caterpillar, out of whose neck grows a vegetable (a fungus or mushroom). The Chinese appear to regard it as partaking at one season of the animal, at another of the vegetable nature. Du Halde* calls it *Hia tsao tong tchong*, that is, *summer-plant-winter-worm*. Mr. Reeve, to whom I am indebted for some specimens of it, tells me that it is better known at Canton in the common dialect as *Tong chong ha cho*, which means *winter-worm-summer-plant*. This name, it will be perceived, consists of the same words differently spelt, and transposed. In Japan it is called *Totsu Kaso*†. In *Rees' Cyclopædia* there is a brief notice of it under the name of *Hiastaotomtchom*, which is intended to mean *Heau tsaou tong chong* (*summer-plant-winter-worm*).

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* *Description Geographique et Historique de la Chine*, vol. iii., p. 490.

† Thunberg, *Travels in Europe, Asia, and Africa, between the years* 1770 *and* 1779, vol. iii., p. 68.

Mr. Reeve states that it is brought to Canton tied up in bundles, each containing about a dozen individuals.

Fig. 1.

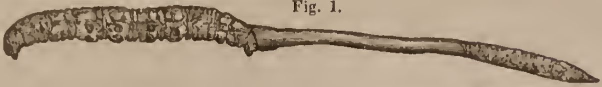
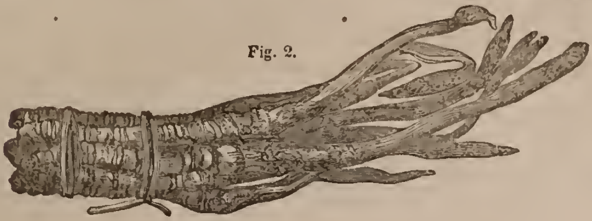


Fig. 2.



Summer-Plant-Winter-Worm.
Fig. 1. Isolated Individual. Fig. 2. Bundle. (Natural Size.)

Each individual is about three inches (a little more or less) long. About one-half of it is a caterpillar of the usual cylindrical form, and having a light yellowish brown color. The head, neck, segments of the body, and legs (thoracic, ventral, and anal), are all distinctly recognizable. Projecting from the back part of the neck, is a slender club-shaped body. This is the fungus. It is, I think, a species of *Sphæria*, and is closely allied to the *Sphæria entomorrhiza**.

The lepidopterous insect, on whose larva this fungus grows, has not at present been determined. Mr. Doubleday, of the Zoological department of the British Museum, who has very carefully examined a very perfect larva, given to me by Mr. Reeves, is of opinion that the insect is a species of *Agrotis*.

Du Halde says, that the insect-fungus is scarce, and that at Pekin it is considered to be a foreign production. "It grows," he adds, "in Thibet; but it is found also, though in small quantity, on the frontiers of the province of Se-tchuen, which borders on Thibet or Laza."

I now proceed to notice the opinions of the Chinese regarding its medical properties and uses. Thunberg states, that it is reputed to possess cordial virtues.

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* I subjoin a notice of the Sphæria Entomorrhiza taken from the Rev. Mr. Berkeley's *Fungi*, forming vol. v., part 2, of Smith's *English Flora.*

"Sphæria. *Hall.* Sphæria. *Perithecia* rounded, entire, furnished at the apex with a minute orifice. *Asci* converging, at length dissolving. Name, from *σφαρια*, a *sphere.*

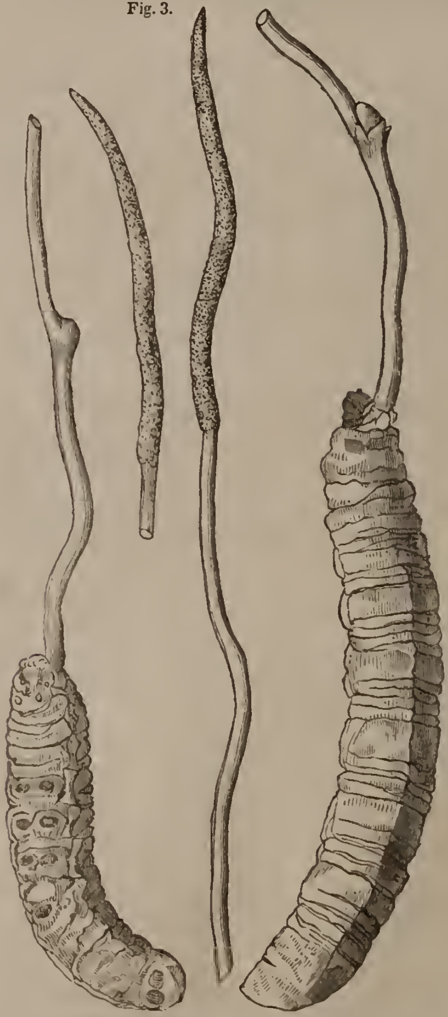
Sphæria entomorrhiza, Dicks, (*roundheaded Insect Sphæria*); carnose, head subglobose, brown, stem slender, sporidia oblong. *Dicks. Crypt.* 1. p. 22, t. 3, f. 3. *With* v. 4, p. 356. *Pers. Syn.* p. 4. *Fr. Syst. Myc.* v. 2, p. 324. On dead larvæ and pupæ of insects. Very rare. Bulstrode. *Lightfoot.* Autumn. Edgefield. Norfolk. *Rev. R. B. Francis*, Apethorpe, Norths. May 17, 1835, *Rev. M. J. Berkeley.* As the single specimen with which I have been so fortunate as to meet, according precisely with one in Dr. Hooker's Herbarium, gathered by Mr. Francis, differs from the figure of Dickson in having a larger elliptic head, immersed perithecia, and a stouter stem, the following description will not be superfluous. *Head*, one-third of an inch long, broadly elliptic, quite distinct from the stem, changing from chestnut to bright red-brown, minutely dotted with the *ostiola*, of a tough fleshy consistence, nearly white within. *Stem*, two inches high, one line thick, nearly equal pale above, darker below, of the same color as the head, but slightly mottled, almost smooth, giving out at the base numerous root-like filaments, in my specimen, attached to a chrysalis, in Dr. Hooker's, to a caterpillar. *Perithecia* completely sunk in the flesh, much elongated, gradually tapering to the orifice crown; their contents of the same color, consisting of a very long flexuous *asci*, containing a double moniliform row of very minute oblong but not truncate *sporidia*, which, when the *asci* are broken, still partially adhere together, accompanied by more slender *paraphyses*. There is little doubt, notwithstanding the differences mentioned above, that the plant of Dickson is the same with that now before me, as the figure evidently represents an anomalous form arising from the larvæ having been deeply buried in the ground."

According to Du Halde, its properties are considered to be similar to those of *ging sing*. It strengthens and renovates the powers of the system which have been reduced either by over-exertion or long sickness. The physicians of the Emperor of China stated, that they used it only at the palace on account of its scarcity. Black, old, and rotten specimens cost four times their weight of silver.

The mode of employing it is very curious. The belly of a duck is to be stuffed with five drachms of the insect-fungus, and the bird roasted by a slow fire. When done, take out the insect-fungus, the virtue of which will have passed into the duck's flesh. The latter is to be eaten twice a day for eight or ten days.

Parasitic fungus, from New Zealand. Sphæria Robertsii.—Another fungus, very analogous to the Chinese one, has within the last few years been discovered in New Zealand. It grows from the back of the neck of a caterpillar.

Fig. 3.



Sphæria Robertsii on the larva of a Lepidopterous Insect. (Natural size.)
In each Figure the Stipe is represented as if cut across.

The fungus is a species of Sphæria, which has been denominated the *Sphæria Robertsii.*[*] It is six or eight inches long: dark or blackish, with an elongated flexuous *stipe*, which, though simple in all the specimens yet examined, presents an appearance of being occasionally branched. The *head* or *capitulum* of the fungus is elongated, acuminate and vermiform. The *root* of the fungus is imbedded in the head and part of the body of the caterpillar. One of the specimens placed on the table of the Society has two fungi growing out of its head.

The lepidopterous insect, on whose larva this fungus grows, is not uncommon in New Zealand. It is found only at the root of the rata tree (*Motrosideros robusta*), a myrtaceous plant.

Dieffenbach[†] suggests, that the insect is a species of Sphinx which feeds on the sweet potato (*Convolvulus batatas*); but the absence of any spine or horn on the last segment of the larva is an objection to this suggestion. Mr. Doubleday thinks that it may be *Hepialus virescens*, which is found at the root of the rata tree. He has a caterpillar apparently identical with that on which the fungus grows, and which is believed to be the larva of the Hepialus virescens.—*Phar. Jour.*

The instances of plants found attached to insects are not so rare as may, at first view, be supposed. In the third volume of the "Family Magazine," an "insect-plant" is described, accompanied by a wood-cut illustration, the specimen having been procured in North Carolina. The insect "is about one inch in length and three-fourths of an inch in circumference. It is of a brownish color, shaped like a wasp, destitute of wings, head similar to a beetle, with two antennæ or horns; has near its head on either side a short leg, shaped like those of the mole, with broad, serrated extremities, and intended, doubtless, like those of the mole, to assist the insect in penetrating the earth. It has also two posterior legs. When the insect has attained its growth, it disappears beneath the surface of the ground and dies." Soon after death, two shoots, it is said, sprout from the body just where the two posterior legs join it. "These two shoots soon appear above the earth, and the insect-plant quickly attains the height of about six inches. It puts forth branches and leaves, resembling trefoil."

In an excellent work on "The Natural History of Insects," published in Harpers' Family Library, we find, among various species of "Insect-plants" noticed, this very one, delineated above by Pereira, described.

"In China is found a geometrical larva, which has a long, rather thick stem, growing from the head; this is about two inches and a quarter long, while the insect itself is not quite one inch and a half in length. Father Parenin, who sent it to France, observes, in his account of it, that it was a scarce plant; being found only at the palace of Pekin there, where also it was not a native, but brought from the mountains of Tibet, and some other places on the confines of the Chinese dominions. This father had never seen the leaves or flowers of the plant, but only its roots, which were in high esteem there, not only because of their miraculous changes, but from their *possessing the virtues of the ginseng.* This plant, we are informed, is still in great estimation by the Chinese nobles. The roots had nothing particular in their figure or appearance; but with these the father sent home those which were supposed to be changed into a worm, for which they are called hiatsiotonetcheon, that is to say, a plant which, at a certain time of the year, changes into a worm. The Chinese suppose that this is a plant during the summer season; but that in winter its stalk dies, and the root becomes a worm; concerning which the father observed, that nothing could more exactly express a worm or caterpillar; the head, the eyes, the feet, and the mouth, being all plainly distinguishable, as well as the several folds and cuttings in of the body. This account was found to be perfectly true; but the mistake was owing to the want of proper accuracy in the observation: for the body, which was supposed to be the root transformed, had in reality never been any part of the plant, but was found to be really and truly a caterpillar. Some fanciful persons have supposed, that when the time of its change approached, it always selected the roots of this plant as of proper size and dimensions for its purpose; and gnawing off the end, hollowed away the stump, so as to introduce its tail into the cavity, where it remained covered with the bark of the root, which so nicely joins to it, that those who observe it in a slight way cannot but mistake it to be a part of the root, or the remainder of the root a continuation of the body. On opening the body of a larva, however, we find that the root of the fungus entirely occupies the whole interior portion from the head to the opposite end.

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[*] See Hooker's *Icones Plantarum*, vol. i., tab. xi.

[†] *Travels in New Zealand; with Contributions to the Geography, Geology, Botany, and Natural History of that Country.* London, 1843.

"Most authors have supposed that the seeds are swallowed by the larva and cause its death; and that after that event it becomes the soil or base upon which the vegetables fasten themselves, and thus germinate in the decaying remains. On the other hand, if it be supposed that they are propagated by seeds in the ordinary mode, it plainly appears that the seeds would, on being wafted through the air, alight upon the most exposed part of the unhatched insect that was accommodated for its reception, and this would, of course, be near the head. Being there fixed, the plant would increase with the enlargement of the insect, and, drawing nourishment from its body, would continue to grow, even after it had attained its last and perfect state, until the plant has destroyed the life of the insect. The opinion now laid before the reader is more likely to be the truth. As insects often pass no small portion of their life in a state of torpidity, in which they remain chiefly without motion, it will not seem wonderful, should any partial moisture accidentally accumulate upon them, that it affords a seed-plot for certain minute fungi to come up and grow in."

The same writer describes a species of melolontha, termed in this country the Maybug, the larvæ of which have not unfrequently attached to them a vegetable sprout three inches in length; and this proceeds, in some instances, from the mouth, but generally from between the head and under part of the thorax. The larvæ are dead and in a state of decay, their existence being indicated by the sprout rising above the ground. In Mexico, a species of curculio in the perfect state, having long slender filaments attached to various parts of the body, is said to exist; and, in the same country, there is a species of hymenopterous insect, which was first made known under the name of "vegetating wasp," by a Spaniard, named Father Torrubia. He says that he found some dead wasps in a field, from the belly of each of which a plant germinated, growing about five spans high. Similar vegetating wasps are said to have been found in the Island of Dominica. Insects have likewise been detected with portions of flowers attached to various parts of their bodies, as, for instance, bees, and even coleopterous insects.

Indian Hemp or Gunjah, (*Cannabis Indica.*)—In reference to this remedial agent, we had prepared an extended notice, based on the pamphlet of W. B. O'Shaughnessy, M.D., of the Bengal Army, to whom is due the merit of having directed attention to this ancient therapeutic remedy; but, as a want of space precludes its insertion in this Number, it must suffice to present here a few general remarks. Passing over its botanical and chemical characters, as well as its history, we find it employed by the author in rheumatism, hydrophobia, epidemic cholera, tetanus, infantile convulsions, and delirium tremens. In several of these cases, unequivocal catalepsy was induced. The chief power of this remedy is regarded as *anti-convulsive;* and of its therapeutic value in this respect, Mr. Ley adds his testimony from the experience of several cases detailed in the Provincial Medical Journal. By Dr. Pereira, however, who gives an account of it in the last edition of his Materia Medica, it is thought that its powers have been overrated.

15. *Iodine Injections into Chronic Abscesses of Joints.*—M. Bonnet, principal surgeon of the Hotel Dieu at Lyons, states that he has derived the most favorable results from the employment of injections of iodine into indolent abscesses unattended by puffiness (*gouflement*) of the cellular tissue, or thickening of the synovial membrane, and occurring coincidently with emaciation, &c., in children of a scrofulous habit, in whom the powers of the constitution are much enfeebled. In no case has he observed the alcohol of the tincture of iodine employed to produce inflammation in any formidable degree; but his experience of the remedy, as thus adopted, has certainly been too limited hitherto for the establishment of any decided opinion respecting the utility of the remedy against scrofulous abscess.—*London Lancet.*

We can add to the above that we have witnessed the most successful results in scrofulous ulcers which had long resisted many other approved modes of treatment, from the local application of the tincture of iodine.

16. *The Ferruginated Pill of Mercury.* By Dr. Collier.—The varying and unsatisfactory quality of our "blue pill" has for many years attracted attention. In my second edition of the London Pharmacopœia I gave the outline of a formula for preparing it with sesquioxide of iron; the further experience of years enables me to offer this preparation as a boon to the profession and to the public, for it may be proved that the iron enters along with the mercury into the blood, and saves the wear and tear of the human body under its use. I will not at this time canvass, because I doubt, the probability of the sesquioxide (in double equivalents) yielding up one atom of its oxygen to the mercury, as is the opinion of several chemists to whom I have submitted this compound. I am aware that other peroxides, when moist, will similarly combine and divide mercurial globules; and I will not now enter upon the series of incomplete experiments instituted by myself to prove that mercury will amalgamate with other metallic oxides, and in this state form double or triple salts with acids. I shall now keep only to the practical utility of my compound, and to its importance as a great remedial improvement.

The following is the formula:

℞ Ferri sesquioxydi, ʒ i.
Hydrargyri, ʒ ii.
Confect: Rosæ Gallicæ, ʒ iii.
Contere donec globuli non amplius conspiciantur.

It is made in five minutes; common blue-pill demands a week. The globules are not visible, even by the microscope. It is uniform in its appearance and effects. It makes a smoother pill, retaining its form more permanently. It salivates in a few days in the usual doses. It is particularly eligible for the strumous, the irritable, and for reduced anemial constitutions requiring mercury. The powers of life are not so much (scarcely at all) prostrated under its use. Its resolvent power is greater than that of mercury alone, especially with respect to buboes. Practitioners will at all events know what they are using; at present they have for blue-pill all manner of alloys and sulphurets—mercurial zinc pill, mercurial sulphur pill, &c., &c.

Five grains of the sesquioxide will suffice to amalgamate and divide a large quantity of mercury, but I propose the larger proportion as a remedy.—*Lancet,* March 11th, 1843.

[The facility with which mercury may be reduced to a state of minute division by means of vegetable extracts, has already been pointed out in this Journal, vol. i., page 203, the time required for this purpose varying from ten minutes to half an hour, according to the nature of the extract employed. The therapeutic value of Dr. Collier's preparation, as detailed in the above paper, entitles it to the consideration of the profession, as a new remedy, but we cannot recommend the use of any succedaneum in the preparation of the blue-pill of the Pharmacopœia. A strict adherence to the order of the College produces a result uniform in strength and appearance.—*The Dublin Journal of Medical Science,* from the *Pharmaceutical Journal.*]

SURGERY.

17. *Treatment of Sprains by Starched Bandages.*—Sprains, as is well known, are generally produced by great force applied to a joint, or by a smaller degree of force awkwardly applied when the muscles of the limb are unprepared for it; the result of which is, that the ligaments, tendons, and their sheaths, which surround the joint, are violently stretched, and in some cases torn. After a short time, sometimes almost immediately, great tumefaction and stiffness of the affected joint take place, from effusion of blood and serous fluid. Such cases are of very common occurrence, and are familiar to every practitioner. They are universally classed among the most tedious and troublesome cases which fall under the care of the surgeon. The treatment adopted by different practitioners is extremely various; some apply leeches, others cold evaporating lotions, others warm fomentations, whilst some trust to stimulating frictions: and, perhaps, it is a general fault among medical men to resort too much to *one* method of cure, to the exclusion of other means. The treatment of such cases, which we have been in the habit of following for some time past, has certainly been attended with more decided success than any one which had formerly come under our notice. Not only is the patient saved much suffering, but is enabled sooner to attend to his duties, and to take that exercise in the open air, which is so congenial to health and convalescence. By means of the following treatment, our patients may (even after having suffered a very severe sprain) be enabled to go about their usual avocations in six or eight days. Upon being called to a case where a sprain has occurred, the extremity must be elevated and kept at rest. Cold evaporating lotions, or warm fomentations, are to be applied according as the one or the other is more agreeable to the patient's feelings, and also according as we see the case immediately after the injury, or some time after its occurrence; in the latter case, warm fomentations are always most beneficial, and most relished by the patient. It may be necessary, also, to use local blood-letting, when symptoms of inflammatory action make their appearance: this, however, we believe, will seldom, if ever, be required, if the accident is seen at an early period. After the swelling around the joint and in the course of the tendons has nearly subsided, under the use of such, or similar applications, the starched bandages, first recommended by M. Larrey, and afterwards by Dr. Lentin, of Brussels, in fractures of the extremities, are to be applied. In the employment of these bandages, it is of the greatest consequence not to apply them so long as the limb continues very painful or much swollen; at the same time, it does not do to wait until the pain has altogether subsided, or the swelling entirely fallen, for this is seldom accomplished until a considerable time has elapsed, and until a bandage is applied. In applying the bandage, we always follow the plan of Dr. Lentin, of Brussels. Two or three pieces of broad stout cloth, well covered with starch, are to be folded and applied on each side of the limb, across the affected joint. One or two rollers, also well starched, are then applied over these, not very tight, but still of sufficient tightness to give gentle compression to the whole of that portion of the limb. These dry readily in twenty-four or thirty-six hours, on exposure to the air. It has been recommended to facilitate the drying of the starch, by passing a heated smoothing-iron over the bandages, but we have

found that this has a tendency to render the limb more painful, and to increase the inflammatory action of the parts. The size and length of the bandages are always to be proportioned to the joint over which they are applied. Sprains most commonly occur in the wrists and ankle-joints, and then it is advisable to use bandages which will reach respectively from the middle of the fore-arm to the palm of the hand, and from the middle of the leg to the digito-tarsal articulation. The advantages resulting from this plan of treatment are obvious; it exerts a comfortable and most beneficial degree of pressure upon the injured parts, while the moisture of the starched bandages acts as a temporary fomentation, and when dry, the stiffness which they acquire, and the continued and regular pressure which they exert upon every point to which they are applied, completely prevent every kind of motion of the injured joint, even although the patient may be using the rest of his body very actively. It may be well to mention, however, that it is sometimes necessary to apply a couple of strong pasteboard splints on each side of the injured joint until the bandages dry. Out of 100 patients lately treated on this principle, 92 got well in six days—at least, when we say well, we should have said able to go about without any assistance; 6 in twelve days, and the remaining 2 in thirty days—the two last being very severe cases, and being much *bruised* besides sprained.—*London Medical Times.*

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18. *Taxis.*—M. Amussat in a paper on the *prolonged and graduated taxis, or the reduction of strangulated hernia by the united means of the surgeon and one or more of his assistants,* deduces the following conclusions:—1st. The ordinary taxis is insufficient; in many cases, it requires a more sustained and greater force than that of a single operator, because the resistance to be overcome is too great, and the powers of the surgeon are too soon exhausted. 2d. To act effectually when the operator alone is insufficient, we must associate the aid of one or more assistants, as in luxations, fractures, &c., so as to prolong and graduate the taxis suitably and present some chances of success. 3d. The process which he prefers consists (having first placed the patient upon some resistant body) in embracing the tumor, circumscribing it lengthwise instead of flattening it, and compressing its base perpendicularly to the ring, with two, four, or six hands at the same time. 4th. The results obtained by this proceeding, he states to be very satisfactory; and he considers them of sufficient weight to induce a change in the established practice, that is to say, that instead of operating speedily as generally advised, we ought to prolong the employment of the taxis in the above method; a plan which he thinks will be attended with great success. 5th. That to be enabled to treat these diseases properly, we must study the surgical and pathological anatomy of the parts, and make ourselves in every way acquainted with the subject.—*London Medical Times.*

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19. *Artificial formation of a new Urethra.*—M. Ricord presented lately to the Academy of Medicine a patient on whom he had performed the above operation, in consequence of the urethral canal having been completely destroyed by a phagedenic chancre, throughout the whole extent of its spongy region. The greater part of the skin of the penis had also been destroyed, and two-thirds of the circumference of the corpora cavernosa, as well as the longitudinal groove marking the course of the urethra, were covered with a thin tissue of cicatrix. The urine escaped below from an opening situated in a deep fold of the skin of the scrotum. To remedy this condition, M. Ricord suggested the formation of a new canal between the corpora cavernosa and the cicatrized tissue surrounding them. For this purpose, he employed a trocar-shaped instrument, somewhat flattened and terminating in a lancet point. The instrument was first introduced by the meatus urinarius, and towards the middle of the glandular region its point penetrated into the cellular tissue surrounding the corpora cavernosa. In this progress, M. Ricord divided the external fold, until meeting with the gorget previously introduced into the opening through which the urine escaped. The artificial canal thus commencing at the centre

of the glandular region was made to rejoin the portion of the urethra corresponding to the scrotum, at the distance of one *centimeter* and a half beyond its external opening. After this operation, which gave no great pain to the patient, a silver canula was introduced in the place of the perforating instrument, and two hours afterwards the urine escaped freely by this new passage. Compresses dipped in cold water were the only dressings applied to the wound. Very little swelling or inflammatory action occurred. The canula was replaced on the fifth day by a gum-elastic catheter, and since the 27th of January, the day of the operation, the size of the catheters has been gradually increased so as to give this new canal a suitable diameter.—*London Medical Times.*

OBSTETRICS AND DISEASES OF FEMALES.

20. *Spontaneous cure of a Uterine Polypus.*—At the sitting of the Academy of Medicine, at Paris, on the 31st January, M. Marchal (de Calvi) exhibited a polypus of the uterus which had been spontaneously detached. The patient's history was as follows:—

A woman, aged forty-eight, was affected during three years with frequent attacks of metrorrhagia, accompanied with pains in the pelvis. The physician in attendance suspected inflammatory congestion of the uterus, and directed leeches to be frequently applied to the hypogastrium, and the use of baths, with perfect rest, &c. The patient, who was of very active habits, neglected this last injunction. One day while she was herself preparing a bath, she experienced, while in the act of lifting up a very large kettle of water, a tearing sensation and a feeling as if something was ruptured deep in the genital organs, and perceived that something escaped through the vulva. On examination this substance was found to be a polypus, exclusively formed of the tissue of the uterus. The polypus presented a body and a peduncle, is three centimetres long, and two broad. The peduncle is smooth on one aspect, but presents on the other a laceration which evidently shows the way in which it was separated.

This case M. Marchal considers as unique, so far as the mechanism of the separation of the polypus is concerned. There are many examples of the spontaneous fall of polypi. MM. Hue and Hernez de Chegoin have, among others, each recorded a case of the kind. But in both those cases, the separation of the polypus was simply due to ulceration of its pedicle, and not to traumatic rupture. M. Marchal prefers the mechanism of the expulsion in this case to the pressure of the intestines forced by the effort into the cul de sac of the peritoneum, and acting from behind forwards on the pedicle of the polypus.—*Med. Dub. Press*, March 16th, from *Gazette des Hôpitaux.*

21. *Cæsarean Section, with Recovery of Mother and Child.* By Dr. Ringeno, of Overath.—A woman, aged thirty, of small but strong frame, and apparently regularly formed, had been already delivered three times by "perforation." Labor commenced this time on the 12th of August; the waters came away the same evening, pains very weak. In spite of the admonition of the midwife to call in an accoucheur, the woman, by the advice of a neighbor, endeavored to expel the child naturally by forcing down with the pains. On the 14th Dr. Klein, of Siegburg, was with the woman at ten o'clock, and, after vain efforts with the forceps, declared that help could only be expected from the cæsarean section. The woman, however, continued to bear down; at mid-day the pains were violent, and she suffered much. Dr. Klein was again present about the next mid-day. She would not hear of the operation. To mitigate the violent pain, Dr. Klein gave some doses of tinc. opii., but without relief. According to the woman's account, the violent pains had continued for twenty-four hours; when I arrived, about four o'clock P. M., she suffered frightful pains, she screamed for help, and wrung her hands unceasingly. At length, whilst I tried to examine the abdomen with the hand laid flat, her voice suddenly failed, and she could only whisper. The uterus was firmly contracted round the child's body; on touching the left half of the abdomen she appeared to suffer great pain.

Internal Examination:—First position of the occiput, the head partly pressed down into the upper aperture of the pelvis, immoveable, even during the pains; the promontorium not to be reached. The woman had not for many hours felt the motion of the child, yet, by means of the stethoscope, the heart-beats of the child were clearly perceived; less clearly the placenta-bruit. The strength of the woman was pretty good. I agreed with Dr. Klein as to the necessity of the cæsarean section, and, with the consent of the woman, performed it in the direction of the linea alba, while Dr. Klein with his hands defended the bowels from accidents, without meeting with any greater impediment than a part of the edge of the placenta falling in the direction of the wound, which was quickly cut through upon the finger. The right arm instantly projected into the wound; I, however, held it back, and not without some trouble extricated with the right hand the fast fixed head of the child, when the whole body immediately followed. The funis was twice wound round the child's neck (a strongly formed female); after taking it away and sprinkling it with cold water, it cried aloud, and moved itself in a living manner. The funis was tied, and the placenta, with the membranes, taken away through the wound. Duration of the operation and the application of bandages, one quarter of an hour. Little hæmorrhage; little pain. The woman was as well as before the operation, the pain of which was not to be compared with the overpowering labor pains, while the section produced only the feel of a light burning. August 16.—The abdomen much swollen, painful to the touch; the windings of the inflated colon could be clearly followed by the finger; loud borborygmi, scarcely a trace of fever. By the use of a suppositorium very much flatus passed away, and the entire disappearance of pain. Henceforward all the functions regular, without the least disturbance. Elect. lenitiv. was only once given, on account of costiveness. She suckled her child herself, and her recovery proceeded so rapidly that after four weeks she was able to perform light house-work: after the first four days she sewed some articles she was in want of for the child,—for she had calculated only on having a dead child; some days later she was able to milk her cow and perform other usual labors. At this time she is in good health.—*London Med. Times.*

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22. *Emmenagogue Medicines.*—Of emmenagogue remedies, or those medicines that are supposed to possess a specific power over the womb, and which have been resorted to by medical men in cases of amenorrhœa for reproducing the menstrual secretion in conjunction with the general treatment, the following appear to have proved most successful.

Savine—from five to ten grains of the powdered leaves three times a day, or a drachm of the compound tincture twice a day.

Dr. Locock recommends a combination of myrrh, aloes, sulphate of iron, and the essential oil of savine.

Ergot of rye—five to ten grains of the powder two or three times a day, boiled in a little milk. In very irritable habits the ergot must be cautiously administered, as it has been found, after a few days, to produce sometimes violent and even highly dangerous spasmodic attacks.

Iodine in form of tincture, with hydriodate of potash—ten to twenty or thirty drops, two or three times a day.

Strychnine—one-tenth to one-fourth of a grain, two or three times a day. This medicine must be suspended for a few days should headache or twitching of the muscles follow its exhibition.

Madder, myrrh, guaiacum, mustard-seed, valerian, electricity, aloes, have all had their advocates.

In Dr. Ashwell's report of obstetric cases, vol. iii., Guy's Hospital Reports, out of nine cases of amenorrhœa admitted into the hospital, seven simple and two complicated, "six of the simple cases occurred in the persons of delicate females, and the remaining patient was a strong, active, plethoric girl of nineteen. The former was treated by aperients and metallic tonics; four employed the ammoniacal injection with benefit; while electricity in some cases seemed to be of great service in exciting menstruation."

In cases of *amenorrhœa combined with epilepsy*, Dr. A. employed the following formula, recommended by Dr. Bright:—

℞ Pulv. digitalis, gr. j.; Pulv. myrrhæ, gr. ij.; Ferri sulphatis, gr. j.: Syr. q. s. ft. pil. ter die cap.

"Under this treatment the fits became diminished in number, and the menstrual function normally established."—*Braithwaite's Retrospect.*

TOXICOLOGY AND MEDICAL JURISPRUDENCE.

23. *What acts are essential to constitute Rape?*—John Adams, Esq., of the London Hospital, having been requested to examine the person of a child, fourteen years of age, upon whom it was alleged that a rape had been committed by her own father, makes the following statement:

My examination was made on the fourth day after the supposed occurrence, and observing no appearance of bruise about the vulva or parts adjacent, and also distinctly perceiving an unruptured hymen, which I carefully raised on a probe, to be fully satisfied, I ventured to pronounce a positive opinion that no penetration had been perpetrated; and in this I could not be mistaken, as the parts of the child were remarkably small for the age, and could not by possibility have admitted an ordinary-sized male organ, in a state of erection, without most extensive laceration of the hymen. On the trial, which took place at the Old Bailey, two highly respectable medical witnesses stated their belief that the crime of which the prisoner was accused had been perpetrated. I have no exception to offer to the opinion which these gentlemen had formed, because I knew them both to be men of integrity, as well as of experience, and I have no doubt that the two apparently opposite opinions can be reconciled; but I wish to direct your attention to the, at present, imperfect legal definition of "rape." Putting aside, entirely, the question as to the emission of the seminal fluid of the male, the point is this:—In what does the crime consist? And if it be answered, "In the penetration by the male organ," then the question arises, In what does penetration consist? And in the reply to this arises the difficulty. If penetration implies merely the introduction of the male organ as far as the vulva, and does not demand for its completion the introduction of the organ into the vagina, then I am free to admit that in the case under consideration the offence was fully proved; but if the latter condition be requisite, then I positively deny—this *not* having been accomplished—the commission of the offence. I should much like to know the precise legal definition of *rape*, according to the most recent Acts of Parliament. Any medical practitioner may be called upon for his evidence in these most unpleasant cases; and, although we, as medical men, are only bound to answer questions put to us by judge and counsel, and are not required to know much about the legal points of the case, it does appear, from the obscurity of the questions presented to us, that a knowledge of the strict letter of the law may enable us to render assistance, even to the learned judges themselves. Now, if it be required to prove the fact of *vaginal* penetration, as I suspect from the questions put to me by the counsel for the prosecution, and the judge in the case, I think the law is undoubtedly faulty, as it is well known that very many instances are on record of impregnation having taken place, the hymen remaining entire; and an innocent female may be subjected to the inconvenience resulting therefrom, without the ability to obtain redress by prosecution; or, at the utmost, the charge of assault alone could be maintained against the offending party.

The subject is attended with difficulty, but as medical testimony, whether positive or negative, does not rank very high in the opinions of some persons, I have thought it my duty to request to be enlightened upon the subject.—*London Lancet*, March 25th, 1843.

24. *New Antidote for Corrosive Sublimate.*—In a note to the academy, M. Mialhe states that he has found the hydrated proto-sulphuret of iron possesses

the valuable property of decomposing instantly corrosive sublimate; the result of decomposition being a proto-chloride of iron, and a bi-sulphuret of mercury, two harmless preparations. The hydrated proto-sulphuret of iron is besides perfectly innocuous. The details of his experiments have not yet been communicated to the academy, but he states in proof of his assertion, that if a grain of corrosive sublimate be laid on the tongue, the insupportable metallic taste is removed, as by enchantment, if the mouth be freely gargled with water holding the proto-sulphuret of iron in suspension.

In a future paper he purposes to show its use in cases of poisoning with several preparations of copper and lead, which it decomposes and renders innocuous in a similar manner.—*Edinburgh Med. and Surg. Journal*, from *Bulletin de l'Academie Royale de Medicine.*

MISCELLANEA.

25. *Quackery in Paris.*—The following circular, exquisitely lithographed, as we are informed by a French journal (*L'Experience*), has been recently addressed individually to the whole fashionable world of Paris, by M. LISFRANC—a surgeon whose reputation is coextensive with the bounds of civilisation, and who is, at this time, a candidate for the vacancy caused in the Institute of France by the decease of Baron LARREY. In two of the leading political journals of Paris—the *Siècle* and the *National*, it is added, the same announcement appeared:

"M. ———. The apparatus applied to the Marquis d'Aligne for a fracture of the neck of the femur, was removed yesterday. The fracture has united without any shortening of the limb. The marquis is now convalescent; he will soon be able to walk, and his general health is unimpaired.

(Signed) "LISFRANC."

This is certainly plain, straightforward, tradesman-like puffing; but mark the sequel, as appears from the following extract from a late French paper:

"The Marquis d'Aligre having been completely cured by Doctor Lisfranc of the dangerous fracture of the neck of the femur, by which for a time the life of the patient was in jeopardy, has presented to his skilful and scientific surgeon, says the *Moniteur Parisien*, the whole of the furniture of the cabinet of Napoleon, among which was the secretary at which the Emperor constantly wrote, besides several valuable articles of silver and silver gilt."

The difference in the name of the Marquis is no doubt a typographical error.

26. *An English General Practitioner.*—On a cottage window near Plymstock is the following:—"I ——— Parish Clarck Seargeant, Smith, tacheth yong Garls and Buoys to rade and rite daleth in mole candals shugar plums rish-lites comes, mole traps, mouse traps, spring guns, and all other sich matters—teeth distracted, blid drawn, blisters, Pils, mixturs maid, also nails, and hosses shoed, hepsome salts, and cornes cut, and all other things on rasonable Tarmes.—N. B. and also my Misses goes out has man whidwife in the cheepest way posuble."—*Dub. Med. Press.*

27. *Accident to Baron Berzelius.*—This very talented and eminent chemist has recently had a narrow escape with his life, from an explosion which occurred during some experimental investigation in which he was engaged. Although the injuries sustained by him are fortunately slight, yet, seeing the extent of mischief produced by the accident, it is a matter of surprise that he did not pay the forfeit of his life.

28. *Caloric a means of destroying pestilential miasm.*—The medical commission sent by the Russian Government to Egypt, has just announced that the experiments made to purify by heat objects impregnated with the contagion of the plague have perfectly succeeded. They promise to show, by further trials, the

efficacy of caloric as a specific means of destroying the pestilential miasma.—*French paper.*

29. *Artesian Wells.*—We understand that it is intended to carry the bore for the Artesian well in the Garden of Plants to the depth of 800 or 900 mètres, whereas that at Grenelle is only 550 mètres deep. The object of piercing so low is to find water of a high temperature. The expectation of doing so is founded on observations made by M. Arago and M. Walferdin at Grenelle, that the temperature of the water increased in warmth one degree at every 32 mètres depth, and consequently at that of 800 or 900 mètres must be at from 36 to 39 degrees centigrade (about from 97 to 104 Fahrenheit), with which the hot-houses of the equatorial plants, and also the lodges of the animals in the menagerie, and even the hospitals in that quarter, may be warmed in winter. —*French paper.*

2.

American Medical Intelligence.

Professor Mott's *Case of Gluteal Aneurism.* By William Darling, M.D., Prosector to the Professor of Surgery in the University of New York.

New York, June 26, 1843.

Dear Sir,—Dr. Valentine Mott requests me to state that, in consequence of the papers containing the history of a case of Aneurism of the Gluteal or Ischeatic Artery having been mislaid, he is prevented from furnishing you with a report of it in time to be inserted in the first number of your periodical. When the papers are found, you shall be furnished with a full account of the case. Suffice it at present to state, that the operation of tying the internal iliac artery was performed on the 29th December, 1834,—a perfect cure was the result,—the patient has since enjoyed uninterrupted good health,—and he is now in the daily pursuit of an arduous and laborious avocation.

Respectfully yours,
William Darling,
Assistant to Prof. Mott.

Samuel Forry, M.D.

Dr. Jarvis's "Surgical Adjuster,"—*an Instrument calculated to produce Extension, Counter-extension, etc., in Cases of Fracture and Dislocation.*

This instrument, designated by the inventor "The Surgical Adjuster," and which is certainly a valuable contribution to surgery, is designed for the purpose of reducing Dislocations and adjusting Fractures of all the long bones both of the superior and inferior extremities. It is equally adapted in cases of fracture after adjustment to maintain the extension, which is sometimes necessary to preserve a proper length in the limb; and, at the same time, as we are assured by Dr. Jarvis, it relieves those spasmodic twitchings of the limb, which not unfrequently prove so distressing to the patient and perplexing to the surgeon. It can be used either in the straight or in the bent position of the limb.

As we have no illustrations at hand, in the way of figures, our description of the principles upon which it is constructed, the purposes to which it is applied, and the advantages which it possesses, must necessarily be imperfect. In a subsequent number, however, these disadvantuges may be obviated. The following description of its mode of operation has been furnished us by Dr. Jarvis himself:

> "The extension, counter-extension, and transverse motion, necessary to reduce fractures and dislocations, and the extension necessary to maintain a just coaptation of the fractured ends of the bone, are produced by the power of the lever operating upon a rack and pinion, the ratch-wheel and ketch being used to preserve that power. By this instrument, the surgeon performs his own extension and counter-extension; while, at the same time, he is not restrained in using the necessary manipulations to effect the reduction."

As regards its power, we can bear testimony from a personal knowledge of its stretching qualities. We think we are safe in the opinion that the surgeon, with the aid of this instrument, combines in himself the united strength of twenty men, and a strength, too, that is completely under his own control. We do not here express merely our individual opinion; for the instrument has been examined by the leading surgeons of the city, all of whom concur in the opinion that it will supersede the employment of pulleys, straps, etc., altogether. We are inclined strongly to this opinion for the following reasons, as given by the inventor:

> "1. My instrument takes hold of the limb in a more gentle, easy, and convenient manner.
>
> "2. It allows the operator to vary the line of direction of the limb at pleasure, during the whole process of reduction.
>
> "3. It is applicable to all positions and in all places, as it is compact, portable, conveniently applied, and readily adapted to any length of limb.
>
> "4. The power is applied in a regular and steady manner, either rapidly or slowly as the operator may choose, and yet he is enabled instantly to relax all force. The power may also be increased to any desired extent, and yet be at all times under the most complete control of the surgeon.
>
> "Here let it be remarked that in the treatment of fractures after reduction, it is to be used as an auxiliary, viz., that of maintaining a due degree of extension during the process of cure, and thus giving to the limb its full length and just proportion; while, at the same time, all other apparatus, perhaps even as costly as this instrument, may be dispensed with."

It is scarcely necessary for us to tell our readers that Dr. George O. Jarvis comes from Yankee land—the State that gave birth to the inventor of the cotton-gin. He resides at Portland, Middlesex county, Connecticut. Although he has taken out a patent for this invention, which, at first view, may seem unprofessional, yet we are satisfied that he has at heart the good of his profession, else this notice would not appear where it now does. He thinks justly that every member of the profession should contribute something towards it in the way of improvement; and this invention he quaintly styles the "widow's mite." He has put the instrument into the hands of a manufacturer in this city, at a price that will certainly never enrich him, determined, by keeping it under his own control, to secure all its advantages to the profession.

New-York-Hospital-School of Medicine.—A medical school, we are informed, is about to be established, under the sanction of the governors of the New York Hospital, by the physicians and surgeons of that institution.

The lectures will probably commence early in September next, and will be continued regularly in future during two months in the spring, and two months in the autumn of each year.

Systematic courses, embracing most of the practical departments of the profession, will be given by Drs. Post, Buck, Watson, Swett, Griscom, and the curator of the hospital museum, Dr. Sabine. These will be aided by clinical lectures and practical remarks at the bed-side, by each of the physicians and surgeons during his regular course of duty; and probably also, by a few lectures from some or all of the consulting physicians and surgeons of the institution.

The New York Hospital is the largest of its class in this country, having ample accommodation for at least three hundred and fifty patients. The diversity of diseases presented here is unsurpassed, and, indeed, unequalled, by any similar institution either in this country or in Europe. Students have daily access to the wards during the visits of the attending physicians and surgeons; and, under proper restrictions, they have permission to inspect the case-books. They have also the advantages of a library of some five thousand volumes, including the choicest and most expensive works, ancient and modern, on every subject connected with the profession; and, lastly, they have access to a choice and rapidly increasing cabinet of pathological preparations.

It is to be hoped that medical students in every part of the United States may have the good sense to appreciate and embrace the advantages for clinical and other practical instructions which are here laid open to them. The lectures, we are told, are, for the present, to be gratuitous to such students as are provided with the annual ticket of admission to the Hospital, which amounts to the trifling sum of ten dollars.

—

Arrestation of the Catamenia by the Sea-air.—In the April number of the American Journal of the Medical Sciences, it is stated by Dr. I. E. Taylor, of New York, that sea-air exerts a marked and singular effect on nearly all (fully two-thirds) of the Irish and German immigrants, but more especially the former.

"It is seldom their catamenia returns at the natural periods from the time they leave the shores of Ireland, and the arrest continues for several months, generally, as far as my observations have gone, till the sixth or seventh month after their arrival, when it reappears. I have made trial of various treatment to benefit them, but without success; and now seldom prescribe any medicine except an ordinary black draught till this period rolls round. In some, catamenia has been arrested a greater time and in others only for three months."

—

New York Medical and Surgical Society.—Officers: President, James Macdonald, M. D.; Vice President, John Swett, M. D.; Treasurer, C. R. King, M. D.; Secretary, I. E. Taylor, M. D.

—

College of Physicians and Surgeons.—Alexander H. Stevens, M. D., Emeritus Professor of Anatomy and Surgery in the College of Physicians and Surgeons, has been elected President of the Faculty, vice John Augustine Smith, M. D., resigned.

Castleton Medical College.—Dr. William Sweetser, of New York, in addition to his Professorship in the New Brunswick school, has been appointed to the chair of the Theory and Practice of Medicine in this school.

Medical Department of Hampden Sidney College, in Richmond, Va.—As there is a vacancy in the chair of anatomy and physiology in this school, the faculty advertise that "applications, post paid, will be received by the Dean until July 18th." The dean is Aug. L. Warren, M.D.; and last year, the class is said to have consisted of about seventy students.

New Medical Publications.

The Harpers have in press the following medical works:

Paris' Pharmacologia, with Introduction, Notes, and Appendix, by CHARLES A. LEE, M.D., adapting it to the wants of American practitioners and students.

Elementary Treatise on Human Physiology, on the basis of the Précis elementaire de Physiologie, par F. MAGENDIE, etc.: translated and edited by JOHN REVERE, M.D., Prof., etc. With about one hundred illustrations.

Traité Pratique de l'Art des Accouchemens, par CHAILLY (Honoré), Docteur en medicine, etc. Accompagné de 216 figures. Translated and edited by G. S. BEDFORD, M.D., Prof., etc.

The Langleys have in press the following medical works:

CLARK "*on those Diseases of Females which are attended by Discharges*," illustrated by numerous plates. With notes and additions by EDWARD DELAFIELD, M. D., late Professor of Obstetrics and Diseases of Women and Children in the College of Physicians and Surgeons. 1 vol. 8vo.

VELPEAU'S *New Elements of Operative Surgery*, accompanied with an atlas in quarto of 22 engraved plates. Second edition, entirely remodelled and augmented with a treatise on *Minor Surgery*, accompanied with 191 illustrations, intercalated with the text. This edition is now being revised and translated by P. S. Townsend, M. D., under the supervision of Valentine Mott, M. D., by whom several hundred pages of *new matter* will be furnished; and at the same time there will be added all the latest improvements and discoveries in surgery.

COPLAND'S *Dictionary of Practical Medicine*, in monthly parts, comprising general Pathology, the nature and treatment of diseases, morbid structures, and the disorders especially incident to climates, to the sex, and to the different epochs of life. With numerous prescriptions for the medicines recommended: a classification of diseases according to pathological principles; a copious bibliography, with references, and an appendix of approved formulæ, &c., &c.

The Hospitals and Surgeons of Paris: a general, historical, and statistical account of the public Hospitals of Paris, with Bibliographical Notices of the most distinguished of the living French surgeons. By F. CAMPBELL STEWART, M. D.

PEREIRA *on Food and Diet*, and the Dietetical Regimen suited for a disordered state of the Digestive and other organs; with the formulas of Dietaries of Prisons, Union Workhouses, and other Public Institutions, with critical remarks. To which will be added numerous Notes and an Appendix, by Charles A. Lee, M. D.

Observations on Obstetric Auscultation, with an Analysis of the Evidences of Pregnancy, and an Inquiry into the Proofs of the Life and Death of the fœtus in Utero. By EVORY KENNEDY, M. D., Lecturer on Midwifery, and the diseases of Women and Children, at the Richmond Hospital School, etc. With an Appendix containing legal notes, by John Smith, Esq., Barrister at Law. To be edited by Isaac E. Taylor, M. D., of New York.

Cheap Medical Literature.—Lea and Blanchard have published, for the low price of 25 cents, "*Numerous cases of Surgical Operations without pain in the Mesmeric state*," by John Elliotson, M.D., Cantab. F. R. S., of London, a standard author on physiology for the last twenty-five years.

Army Medical Board.—This board, consisting of Surgeon Thomas G. Mower, President, Surgeons Henry A. Stinnecke and Charles S. Tripler, Members, and Assistant Surgeon J. J. B. Wright, as Supernumerary and Recorder, is now convened, in this city, for the purpose of examining the Assistant Surgeons for promotion, who may be ordered to appear before it, and such applicants for appointment in the medical staff of the army as may be invited by the Secretary of War to attend.

Medical Society of Virginia. Prize Essay.—The Medical Society of Virginia offers a gold medal for the best essay on "the value of opium in the treatment of febrile diseases."

It is required that the essays be sent in by 1st of October, 1843, and be addressed (post paid) to the corresponding secretary, Frederic Mark, M.D., Richmond, Va. Each essay to be accompanied by a sealed note, giving the name of the author, and the post-office through which to communicate with him.

Boylston Medical Prize Question.—A premium of $50, or a gold medal of that value, is offered for the best essay on the two following questions:—

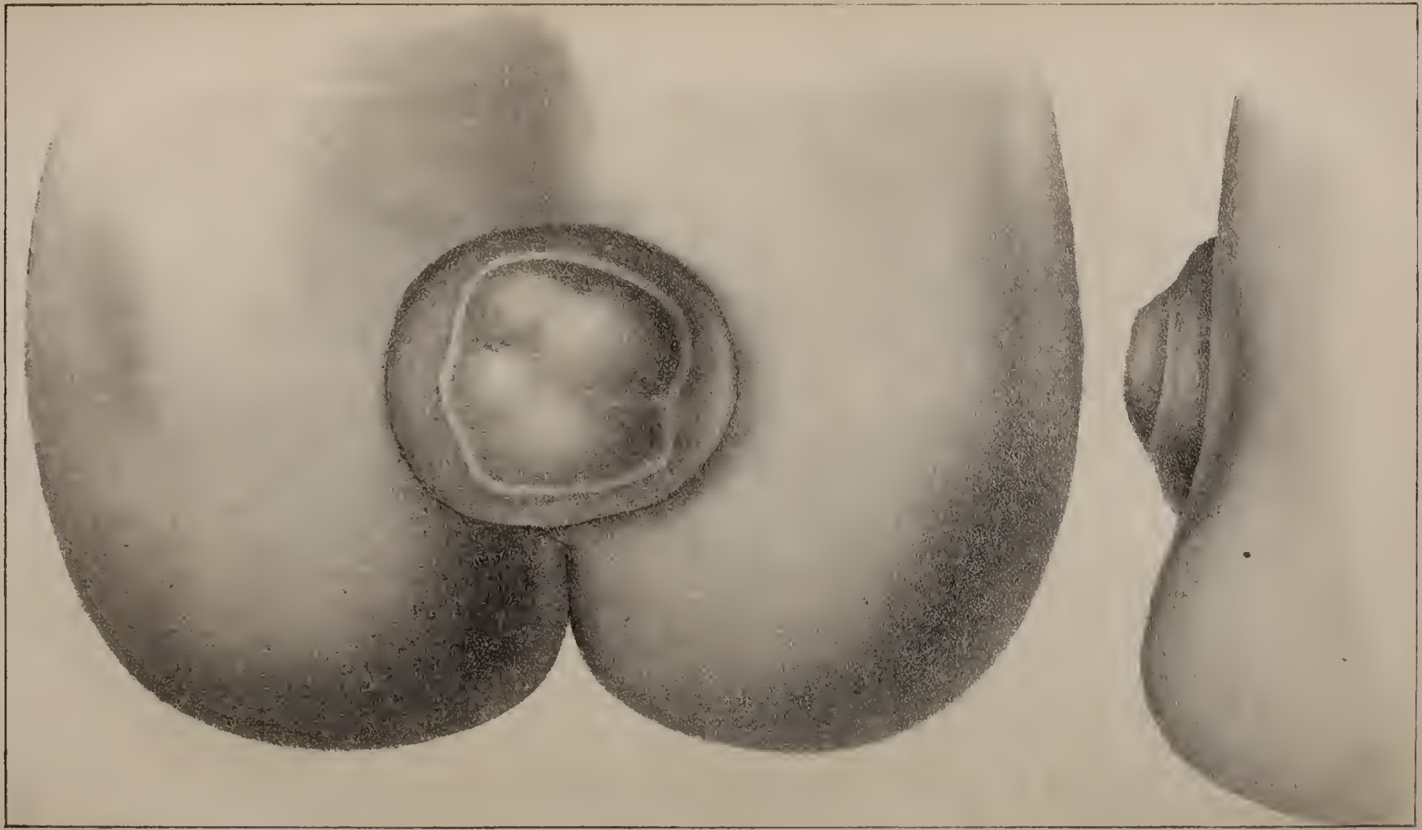
"To what extent is the human system protected from small-pox by inoculation with the cow-pox? Is the protection increased by re-vaccination, and if so, under what circumstances?"

It is required that the dissertations be transmitted on or before the first of April, 1844, (post-paid), to John C. Warren, M.D., Boston.

Each dissertation must be accompanied by a sealed packet, on which shall be written a device or sentence, and within shall be enclosed the author's name and residence. The same device or sentence is to be written on the dissertation to which the packet is attached.

Extraordinary Dwarf.—We concur in opinion with our brother editor of the Boston Medical and Surgical Journal, that Charles Stratton, who had become known by the universal cognomination of Gen. Tom Thumb, deserves a place among the records of physiological curiosities. "We were informed," says the Boston Journal, "that he was born in Lancashire, England, on the 4th of January, 1832,—weighing at birth nine pounds and two ounces. Since he was six months old, he is said not to have grown. He is now but twenty-two inches tall." This lively little fellow presents certainly a striking illustration of the freaks of nature; and as such, it would have been best for his exhibitors to have adhered to the truth in giving his history; but we should not consider it within our editorial province to criticise a show-bill, were it not that our friend of the Boston Journal has made a "permanent record" of Gen. Tom Thumb's physiological characteristics. We have heard this comic miniature man answer various questions put to him on the stage; such as "where was you born?" "How did you come to this country?" And to each he respectively squeaked forth, in a very infantile tone, the following answers: "*In England*"—"*In the steam-ship Caledonia.*" Now, as it is essential that all physiological records should be as free from error as practicable, we feel constrained to state that Charles Stratton was born at Bridgeport, Connecticut, and that he is not more than six or seven years old. It is, by the way, not a little surprising that our brother editor did not at once recognize in the General a *little yankee.* Should there be any error in our statement, it can be easily corrected by Dr. Samuel Simons of Bridgeport, who, we are informed, had the distinguished honor of introducing Gen. Tom Thumb to this sublunary creation.

Polysarcia Adiposa.—In company with Gen. Tom Thumb there is exhibited, at the "American Museum," an extraordinary case of *obesity* in a girl who is said to be six years old, and to weigh 240 pounds. We do not, however, wish this to be considered a "permanent record." But there is an extraordinary instance of this disease in a girl, of the age of four years, that weighed 256 pounds, recorded in the Philosophical Transactions.



PROF. A. H. STEVENS' CASE OF SPINA BIFIDA.

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The Complete works of Ambroise Paré. Revised and collected from all the former editions, with their various readings; illustrated with 217 Engravings, and with a Portrait of the Author; accompanied with Notes, Historical and Critical; and preceded by an Introductory Essay on the Origin and Progress of Surgery in the West of Europe, from the sixth to the sixteenth century, and on the Life and works of A. Paré. By J. F. **Malgaigne.** Paris: 1841. 3 vols. 8vo. pp. 2500, - - - - - . - - - - 239

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TO READERS, CORRESPONDENTS, ETC.

Contributions have been received from Dr. Le Conte, of Savannah, Ga.; Dr. Salisbury, of Avon, N. Y.; Dr. Blackman, of Canterbury, N. Y.; and Prof. W. Parker and Dr. M'Cune Smith, of this city.

The following works have been received:

A Dictionary of Practical Surgery, etc., etc. By Samuel Cooper, Prof. of Surgery, etc., etc. Reprinted from the seventh London edition, together with a Supplementary Index, by David Meredith Reese, A. M., M. D., etc. New York: Harper & Brothers. 1842. (From the Publishers.)

Medical and Physiological Commentaries. By Martyn Paine, M. D. New York and London: 2 vols. 8vo. pp. 1528. (From the Author.)

Essays on the Philosophy of Vitality, as contradistinguished from Chemical and Mechanical Philosophy, and on the Modus Operandi of Remedial Agents. By Martyn Paine, A. M., M. D., Prof. of the Institutes of Medicine, etc. New York: 1842. (From the Author.)

A Treatise on Food and Diet, with Observations on the Dietetical Regimen suited for the Disordered States of the Digestive Organs; and an Account of the Dietaries of some of the principal Metropolitan and other Establishments for Paupers, Lunatics, Criminals, Children, the Sick, etc. By Jonathan Pereira, M. D., F. R. S., and L. S., Licentiate of the Royal College of Physicians in London, etc. Edited by Charles A. Lee, M. D. New York: J. & H. G. Langley. 1843. (From the Publishers.)

A Treatise on Protracted Indigestion and its Consequences, etc. By A. P. W. Philip, M. D., F. R. S., L. and E., etc. Philadelphia: Lea & Blanchard. 1843. (From the Publishers.)

Practical Instruction in Animal Magnetism. By J. P. F. Deleuze. Translated by Thomas C. Hartshorn. (From the Translator.)

Minor Surgery; or Hints on the Every-Day Duties of the Surgeon. By Henry H. Smith, M. D., etc. Philadelphia: Ed. Barrington & George D. Haswell. 1843. (From the Publishers.)

A Practical Treatise on the Management of Diseases of Children. By Richard S. Evanson, M. D., Prof. of Medicine in the Royal College of Surgeons, Ireland, and Henry Maunsell, M. D., Prof. of Political Medicine in the Royal College of Surgeons, Ireland. Second American from the fourth Dublin edition. With Notes, by D. Francis Condie, M. D., etc. Philadelphia: Ed. Barrington & George D. Haswell. 1843. (From the Publishers.)

Document No. 34, Board of Aldermen, October 24, 1842. Report upon the Effects of Poisonous Smoked Beef. By Drs. W. Post, Hosack, and Chilton.

Annual Circular of the College of Physicians and Surgeons, No. 67 Crosby street, New York. Session 1843–4.

University of New York, Medical Department. Annual Announcement of Lectures. Session 1843–4.

Annual Announcement of the Medical College of Georgia. Session 1843–4.

Catalogue of the Students and Graduates of the Spring Term, 1843, and the Annual Announcement of the Fall Session, 1843, at Castleton Medical College.

The American Journal and Library of Dental Science, for June, 1843.

Address delivered before the American Society of Dental Surgeons, at the opening of its Fourth Annual Meeting. By Chapin A. Harris, A. M., M. D., etc. (From the Author.)

Braithwaite's Retrospect of Practical Medicine and Surgery. Part the Seventh. (From the Publishers.)

☞ All letters in regard to the *business* department of the Journal, and all remittances of money, should be addressed *exclusively* to the publishers, Messrs. J. & H. G. Langley; but books for review, and communications designed for publication, should be directed, *free of expense*, to Samuel Forry, M. D., Editor of the New York Journal of Medicine, care of Messrs. J. & H. G. Langley. Persons at a distance may direct parcels, paid as above, under cover of Barrington & Haswell, Philadelphia, W. D. Ticknor, Boston, and Wiley & Putnam, London.

Postmasters, it will be borne in mind, are authorized by law to frank letters containing money for the subscription of periodicals.

⁂ For Prospectus, see fourth page of the cover.

THE NEW YORK
JOURNAL OF MEDICINE.

FOR SEPTEMBER, 1843.

PART FIRST.

Original Communications.

Art. I.—*A Case of Spina Bifida successfully treated by repeated Punctures; with Practical Remarks.*—By Alexander H. Stevens, M.D., President of the College of Physicians and Surgeons, etc., etc. [With a Lithograph.]

No point of practice seems to have obtained a more settled conviction than that spina bifida is an incurable and generally fatal malconformation. More than thirty years since, Sir Astley Cooper published the history of a case which he succeeded in curing. It does not appear, however, that he ever was so fortunate in a second instance; and it is to be presumed that others, if not Sir Astley himself, have repeated the experiment in numerous instances without success. The following case of successful treatment of this distressing malady appears to be worthy of record. It is extracted from the note-book of Dr. John Watson :

Spina Bifida.—October 17th 1837. An infant, daughter of Mr. Leach, of Skeneateles, eight months old, was operated on by Dr. Stevens this morning for spina bifida. The tumor was seated over the upper part of the sacrum, about three and a-half inches broad from side to side, nearly the same in a vertical direction, and rising about two inches above the surrounding surface, indented along the middle vertically by a thick irregular band of integument. The covering of the tumor was not healthy skin, bu a peculiar thin membrane of a reddish color, traversed by numerous vessels like varicose capillary veins. The healthy integument formed a hard edge at its line of union with the covering of the tumor. The whole swelling was somewhat pendulous, narrower at its base than about the middle, and in size held about the same relation to the size of the infant, as it did at the time of birth. It had been once punctured with a needle, when the child was only a few weeks old. The wound, which had never cicatrized fairly, is now covered with a sort of scab.

In the operation to-day it was punctured with an iris knife, and about four ounces of clear serum tinged with a few drops of blood, issued from the puncture in the integuments. The child did not appear to suffer any inconvenience from the evacuation of serum, but it produced a slight sinking at the anterior fontanelle. The child's general health is good. There did not appear to be any deficiency of bone about the outer portion of the base of the tumor. The healthy integument mounted a few lines above the base, before giving place to the peculiar envelope above noticed.

October 20th.—The tumor was again tapped on the right side. Not more than an ounce of serum escaped.

October 21st.—The tumor was again punctured in three places along its lower edge on the verge of the sound skin. About four ounces of serum escaped without any bad symptoms. The tumor is now somewhat shrivelled, but the diminution does not appear equal to the amount of fluid evacuated.

October 30th.—The fluid continued to ooze slowly for nearly twenty-four hours after the last punctures. Since that period, the child has been drooping and fretful, with some febrile symptoms, perhaps partly owing to her teeth. Recently, the sac of the tumor has become inflamed; and within two days, the child has been observed to keep her left leg drawn up, and to cry when it is disturbed. She has taken little or no medicine, excepting a slight dose of magnesia. The tumor is kept wet with a spirit-lotion. The anterior fontanelle is considerably depressed.

The tumor was not punctured afterwards The febrile symptoms and spasm of the muscles, soon subsided; and in a few days, the little patient returned with her parents to the country. At a second visit to the city in the spring, or summer following, the child was again presented to us for examination. The sac of water had disappeared, and all that remained of it, was a small bunch of indurated and corrugated integument.

The annexed drawings were taken by Dr. Westmacott, about two years after the operation, at which time the child was perfectly healthy. I think it important to state, that the fluid in the sac was discharged very slowly; at the rate of about three drops in a second, while about one third of it was left behind; that slight pressure was made upon the tumor after each evacuation, and as far as was practicable in a restless child, maintained there; and that strict injunctions were given to keep the body in a horizontal position. Once, when the head was suddenly elevated, soon after the tumor had been evacuated, a tendency to syncope and spasm was manifested, which disappeared as soon as the child's head was depressed.

Remarks.—Considering the analogy between spina bifida and hydrocele of the tunica vaginalis testis, and other serous sacs, we may anticipate a thickening and induration of the sac, with a corresponding degree of contraction in the former case, as well as in the latter. The desideratum then is, to open the sac and draw off the fluid safely. This leads to the inquiry—What are the dangers of the operation?

The first danger is the producing of syncope and spasms, by the too sudden removal of the pressure of the fluid upon the serous cavities in the ventricles and spinal marrow. The means of obviating this danger are, drawing the water off slowly, leaving some in the sac undischarged, keeping the patient in a horizontal position, and if necessary, making pressure upon the tumor and upon the head. With these precautions and resources, this danger cannot be deemed a formidable one.

The next danger of which I shall speak, is the occurrence of inflammation of the inner lining of the sac, extending peradventure to the spine and cerebral cavities. There was a period of two or three days of restlessness and feverishness in Mr. Leach's child, which I attributed to this cause, but which disappeared without any particular treatment. Of course, no prudent surgeon would repeat the puncture, until the effects of the previous operation had subsided.

The next question of which I shall speak, is of an entirely different kind, and I infer the possibility of it only from analogy, reasoning from what occurs in somecases of paracentesis abdominis ; that is, an habitual increased secretion produced by repeatedly drawing off the water. I should judge, that such a state of things was to be obviated by increasing the degree of inflammation, and of course the thickening and contraction of the sac, after each puncture, by pressure sufficient for the purpose.

These considerations lead me to conclude, that the puncture of spina bifida may be made with very little danger and a fair prospect of success.

ART. II.—*Vital Statistics furnished by the Sixth Census of the United States, bearing upon the question of the Unity of the Human Race.* By the EDITOR.*

As the subjects discussed in the two articles quoted at the foot of the page, involve questions of the highest importance in anthropology, and as the deductions profess to be based upon statistical data, not to speak of the still more weighty circumstance that these *new views* have been introduced to the notice of the public under the auspices of two of the leading medical journals on this side of the Atlantic, it behoves every true lover of science to investigate most rigidly the character of the facts upon which they rest, before giving in his adhesion to doctrines which threaten to subvert what have been long regarded as established truths. We are sure that no one will be more rejoiced to see the questions here mooted, placed upon their legitimate ground, than these two able editors themselves. As we propose giving a somewhat extended examination to the subject, and as the article in the Boston Medical Journal seems to be the chief basis of the other, we deem it expedient to lay before our readers the whole of a "*Philanthropist's*" communication.

"*Vital Statistics of Negroes and Mulattoes.*—The physical welfare of mankind unquestionably claims the first attention of the philanthropist. This position is sustained by the fact, that the mind of man cannot have a sublunary existence independent of the body; and that the intellectual character generally, and often wholly, depends upon the condition of the animal system.

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* *Vital Statistics of Negroes and Mulattoes.* By PHILANTHROPIST. pp. 2. *Boston Medical and Surgical Jourual*, for October 12th, 1842.

The Mulatto a Hybrid—probable Extermination of the two Races, if the Whites and Blacks are allowed to Intermarry. By J. C. NOTT, M.D. Mobile. pp. 4. *American Journal of Medical Sciences*, for July, 1843.

"The prevention of a great proportion of the maladies, to which human beings are obnoxious, is no less an important consideration with the physiologist, than the cure of disease. Indeed, if all *possible* precautions were used as preventives, it is confidently believed there would be but little demand for remedies.

"As the energies of a very large proportion of your readers are almost exclusively devoted to the 'lengthening out of human life,' I am desirous of presenting to their consideration a few suggestions, relating to the natural history of a portion of the human race, which I trust will not be wholly uninteresting to them, and I am confident may, by their influence, be a subject from which the people of the United States, at least, will derive much assistance in deciding upon a question, which is now being agitated with intense interest through the whole length and breadth of our Union. From authentic statistics and extensive corroborating information, obtained from sources, to me of unquestionable authority, together with my own observation, I am led to believe that the following statements are substantially correct.

"1st. That the longevity of the pure Africans is greater than that of the inhabitants of any other portion of the globe.

"2d. That Mulattoes, *i. e.*, those born of parents one being African and the other Caucasian or white, are decidedly the shortest lived of any class of the human race.

"3d. That Mulattoes are no more liable to die under the age of 25, than the whites or blacks; but from 25 to 40, their deaths are as 10 to 1 of either the whites or blacks between those ages—from 40 to 55, 50 to 1—and from 55 to 70, 100 to 1.

"4th. That the mortality of the free people of color, in the United States, is more than 100 per cent. greater than that of the slaves.

"5th. That those of unmixed African extraction in the 'free States,' are not more liable to sickness or premature death than the whites of their rank and condition in society; but that the striking mortality, so manifest among the free people of color, is in every community and section of country invariably confined to the Mulattoes.

"As the above remarks relate exclusively to physical *effects*, their causes are deemed a fit subject for the investigation of the physiologist. That the causes of such momentous effects may be fully and satisfactorily ascertained, or a remedy or preventive successfully suggested, is the sincere desire of a

"PHILANTHROPIST.

"NOTES.—1. The late and much-lamented Dr. B., of this city, whose *opinion* in matters relating to natural history was esteemed very good authority by those best acquainted with him, and whose correctness in the statement of facts was never questioned, ascertained that it was not uncommon for African slaves in the West Indies to live to from 125 to 130 years of age—and frequently from 150 to 175; and that there had been several instances recorded where they had lived more than 200 years. Dr. B. was of the opinion that the lives even of these were shortened by change of country and condition.

"2. It was remarked by a gentleman eminent for his intellectual attainments, and distinguished for his correct observation, and who had lived many years in the southern States, that he did not believe he had ever seen a Mulatto 70 years of age.

"3. From a correspondence published in the 'Boston Statesman,' in April last, is taken the following statistics:—'In a population [colored] of 2,634,348 (including the free blacks) there are 1980 over 100 years of age; whereas there are but 647 whites over 100 years of age in a population of 14,581,000.' 'It so happens that we have before us a pamphlet published in 1827, by Dr. Niles, then a citizen of New York, now resident and well known in Paris, in which he gave a comparative statement of the mortality in the cities of Philadelphia, New York and Baltimore, deduced from the official reports of the boards of health of the respective cities, from which it appears that in the years 1823, 24, 25 and 26, the deaths were as follows:

	In New York.	In Philadelphia.	In Baltimore.
Whites	1 in 40.15	1 in 31.82†	1 in 44.29
Free Blacks	1 in 18.88	1 in 19.91†	1 in 32.2
Slaves*			1 in 77.88

"4. The same comparative morality between the Mulattoes and blacks exists in the West Indies and Guiana, where unfavorable social causes do not operate against the Mulattoes, as in the United States."

As it is an admirable rule in philosophizing, to determine the truth of a fact before we attempt to explain it or to draw from it any conclusion, let us here adopt this wise precaution.

The leading points of this paper are quoted by Dr. Nott with a strong manifestation of satisfaction; and he then adds—"*The statistics given by 'Philanthropist' prove that the Mulattoes are much shorter lived,*" etc. Looking upon this statement as a most important statistic announcement, we immediately obtained the number of the Boston Journal above quoted from; but what was our surprise on seeing that no statistics whatever are presented as regards this point! Indeed, the Boston writer would seem to have been either afraid or ashamed to affix his real signature. We would premise, by the way, that the following conclusion at which Dr. Nott arrives, is not, as will be satisfactorily shown in the sequel, sustained by any statistical data known to the world at large:

"I do believe *that at the present day the Anglo-Saxon and Negro races are, according to the common acceptation of the terms, distinct species, and that the offspring of the two is a Hybrid.*"

We regret much that a "Philanthropist" does not afford some clue by which to trace the sources of his "*authentic statistics and extensive corroborating information.*" As regards "the longevity of the pure Africans," his source is evidently the census of the United States for 1840; but this census makes no distinction between Negroes and Mulattoes, nor are we aware of any other authentic statistic records in this country, or any other, which will give us this highly desirable information. "In a population [colored]," he says, "of 2,634,348 (including the free blacks), there are 1980 over 100 years of age; whereas there are but 647 whites over 100 years of age in a population of 14,581,000."

Now this is certainly, at first view, a *formidable fact* in favor of the greater longevity of the African; but let us bear in mind that *figures* are not *facts*, and hence the necessity of ascertaining the correctness of the data represented by numerals. Having within a few days gone through the same calculations with the data afforded by the census of 1840, our results have proved not dissimilar to those just given. Having made the distinction of *slave-holding* and *non-slave-holding* States, we obtained the following ratios:—

Non-Slave-holding District.

Free white persons of 100 years and upward, 1 in - - - -	25,106
Free colored persons of 100 years and upward, 1 in - - -	812
Slaves of 100 years and upward, 1 in - - - - - - -	754

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* In Boston, the number of deaths annually among the colored population is not far from 1 in 15. There are probably fewer of pure African descent among the colored population in Boston, than any other city in the United States.

† [The error of these results is pointed out by the Editor of the American Journal of the Medical Sciences. The former should be 42.3, and the latter 21.7.—EDITOR.]

Slave-holding District.

Free white persons of 100 years and upward, 1 in - - - -	11,184
Free colored persons of 100 years and upward, 1 in - - -	480
Slaves of 100 years and upward, 1 in - - - - - -	1,873

So far the investigation of relative longevity between the Caucasian and Negro, would seem most decidedly in favor of the latter; but still, not forgetting that *figures are not facts*, let us extend our researches by testing the universality of these facts. Let us see whether the same law will hold good in a comparison at the age of fifty years and upward. Here, however, some difficulty is presented in consequence of the throwing together, in the census, of all the colored persons between the ages of fifty-five and one hundred, while the whites are estimated precisely at decennial intervals; but this want of uniformity does not prevent, as the mean between fifty and sixty can be easily ascertained, a close approximation to precise comparative results. The following are the results :—

Free white persons above	50	in *non-slave-holding* States,	1 in 11.5
" " "	60	" " "	1 " 15.5
" " "	50	in *slave-holding* States,	1 " 14.
" " "	60	" "	1 " 18.9
Free colored persons above	55	in *non-slave-holding* States,	1 " 14.2
" " "	55	in *slave-holding* States,	1 " 11.9
Slaves above	55	in *non-slave-holding* States,	1 " 8.2[*]
"	55	in *slave-holding* States,	1 " 24.4

Now, as the total number of *free white persons* in the United States is 14,189,705, and the total of those who have reached the age of fifty years and upward is 1,175,010, the ratio of individuals of this age, compared with the entire white population, is 1 in 12.2; and when we extend the same comparison to those of sixty years and upwards, the ratio is found to be 1 in 16.5 On the other hand, as the total number of colored persons in the United States, including the free and the slave, is 2,873,685, and the total of those who are fifty-five years old and upwards, is 131.269. the ratio of this class of individuals, compared with the entire colored population, is 1 in 21.9.[†]

Here, then, we have a truly legitimate comparison as regards the relative longevity of the Caucasian and African. The ratio of the former, who attain the age of fifty-five years and upward, taking the mean of the two results given above at the ages of fifty and sixty years and upward, is 1 in 14.3; while that of the colored race, including the slave and the free, is only 1 in 21.9.

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[*] The slaves in the non-slave-holding States can exhibit no fair ratio as regards their own longevity, from the circumstance that they are merely the remnants of the former slaves, who generally have become free through the operation of a prospective law; but this fact does not in any way vitiate the preciseness of the general results.

[†] The critical reader may here observe a slight discrepancy in our grand totals; thus the aggregate of the whites and the colored as here given, makes 17,063,390, while the grand aggregate of the United States, according to the Census of 1840, is 17,069,453 This difference is not, however, sufficient to vitiate the results in the least; besides, our time is limited, and the labor of going over all the calculations a second time is ten-fold greater, perhaps, than the mass of our readers could well imagine. We design, however, in a following number of this Journal, to present an extended view of the vital statistics of the United States, deduced from the Census of 1840, when all the results presented in detail will allow every one to draw his own conclusions.

We have thus not only disproved, but, in fact, reversed, the position of a "Philanthropist"—"*That the longevity of the pure Africans is greater than that of the inhabitants of any other portion of the globe.*" But, independent of this statistical result, we can adduce various arguments confirming the same conclusion.

This result, which shows that the longevity of the whites, in the United States, at the age of fifty-five and upward, (thus including the high ratio of the colored class at the age of one hundred and upward,) is fully fifty per cent. higher than that of those of African origin, excites in the mind, at once, a well-grounded suspicion that there must exist somewhere an error of vast magnitude relative to the high ratio of the colored race at one hundred years and upward. We will show that we have here an illustration of the fact, that of all kinds of reasoning, *arithmetical* is the most fallacious; for, not unfrequently, the error in the premises can be detected only by the absurdity of the results. It is not invariably true, that "*figures do not lie.*"

In the first place, there is good reason to doubt the correctness of the representations made by aged blacks relative to the period of their birth, for the simple reason that very few have any records of it. It is, indeed, obvious that Congress acted upon this belief, in directing all those between fifty-five and one hundred to be placed under a single head; while with the whites, the classification of decennial periods is continued up to one hundred. Moreover, the slave is led to exaggerate his real age, from the circumstance that it flatters his self-love, enhances his dignity, and excuses him from labor. It has been quaintly remarked that the negro never becomes a man, for until fifty-five or sixty years old, he is called a *boy*, and after that he is styled *uncle;* and in this latter state, his dignity and his ease depend on his years. The ratio, however, is equally high among the free coloured class. It may be here added, that while the slaves in the United States number 2,487,392, the total number of free colored persons is only 386,292.

Were it true that the Negro has a greater longevity than the white man, it would be in direct contradiction, assuming, of course, that the two races have the same physical organization, to some of the best established statistical results. Upon this point, we may repeat what we have said on a previous occasion :—

> "One of the most interesting statistic views in reference to the natural history of man in health and disease in various countries, is that in which the influence of the progress of civilization is exhibited, by comparing the mortality with the population of the same country at intervals sufficiently long to admit of a decided social amelioration. Since 1650, all the countries of Europe, as well as the principal towns, present a gradual diminution of mortality. The value of life has doubled in London within the last century. As good bills of mortality have been kept at Geneva since 1560, we have conclusive statistical evidence that the probability of life to a citizen has gradually become five times greater. Similar evidence is afforded not only by the bills of mortality of many other cities, but especially by the British Insurance offices. This increased salubrity in many countries may, with good reason, be referred to the following causes:—The improved condition of the lower classes of society, as regards food, clothing, and fuel,—better habits as respects cleanliness, ventilation, and the use of spirituous liquors,—and improved medical practice, more especially in reference to the introduction of prophylactic means, as, for example, vaccination. In these circumstances may be found the exemption of Great Britain, for nearly two centuries, from those desolating epidemics which had appeared from time to time; and as there has been no recurrence of the plague

in London since 1665, which was the year preceding the great conflagration which destroyed those narrow streets in which it was practicable to shake hands from the attic windows of opposite sides, we may trace the cause in the improved system of medical police that followed.

"The time-honored opinion that poverty is conducive to longevity—that the rich are less favored by the blessings of health than the poor—finds no confirmation in statistical investigations. As moral and physical evil has a close relation, so also does misery bring in its train disease and death. It has been satisfactorily determined by M. Villerme, of Paris, that in periods of prosperity the ratio of mortality has decreased, and that of births has increased, while the mean duration of life has been augmented; and, on the contrary, when the people were suffering from any cause, opposite results were invariably witnessed."*

Hence also we find that among the free white population of the United States, compared with the degraded race occupying the same region, that the age of fifty-five and upward is reached by at least fifty per cent. more of the former than of the latter—a result confirmed by the statistical fact, that in New York, Philadelphia, Boston, and Baltimore, the annual ratio of mortality is twice as high among the blacks as among the whites. Now, it cannot be alleged that this high mortality among the colored persons in the non-slave-holding States, is due to the circumstance that they are mostly Mulattoes, inasmuch as we find, according to the census of 1840, that, among this same division of free colored persons, there are thirty-one individuals who reach the age of one hundred years and upward, compared with one white person who attains the same longevity. Here, then, we find Dr. Nott and a "Philanthropist" in the strange dilemma of attributing to the same class of individuals, both the greatest mortality and the greatest longevity!! For if, in order to account for this high mortality, they should suppose them to be Mulattoes, it follows necessarily that this race, of mixed origin, instead of being the most short-lived, as they allege, must have an extraordinary longevity. We have thus made good, we conceive, our declaration, that in *arithmetical* reasoning it not unfrequently happens that an error in the premises can be detected only by the unmitigated absurdity of the results.

As regards the *unity of the human race*—a doctrine which Dr. Nott and a "Philanthropist" aim to demolish—we furnished an article for the July number of the American Biblical Repository, in which we maintained the affirmative in an argument of fifty-two pages, especially in reference to the American Aboriginal. As our present limits will allow but a partial discussion of this question, we will be content to present a few extracts. We see no reason, notwithstanding the so-called statistics of the two writers before us, to change the opinion expressed in the following paragraphs:—

"As respects the *duration of human life*, it is evident that there exists no well-marked difference among the different families of men. As all nations have the tendency to exist for a given time,—the three-score-and-ten of the Hebrew being also allotted to our Indian,—they appear thus also as *one* species. The duration of human life, however, varies from the influence of external causes in different climates upon the animal economy; but, at the same time, individuals removed to a new climate acquire in successive generations a gradual physical adaptation to its local conditions. Thus the natives of the western coast of Africa and of the West Indies, notwithstanding the destructiveness of these climates to Europeans, sustain comparatively little inconvenience. As the cells of the camel's stomach show a wonderful adaptation of organic structure to local conditions, without being referred to climatic agency, so the system of the Negro, as his skin is a much more active organ of depuration than that of the white man, is better adapted, let the remote cause be what it may, to the warm, moist, and miasmial climates of the tropics.

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* The Climate of the United States and its Endemic Influences, p. 377.

"If the comparison as regards the duration of human life, however, is extended to the simiæ, notwithstanding their very close approximation to man in physical structure, the contrast is very great. As the greatest longevity of the troglodyte is no more than thirty years, we thus perceive, more especially when also we consider that all the monkey tribes, in their natural state, are confined almost wholly to the intertropical zone, the close relation of what are generally regarded as extreme diversities among the human races. As we discover no difference in this respect among the three races of the European, our Indian, and the Negro, there is little ground for introducing, as was done by Linnæus, Buffon, Helvetius, and Monboddo, the ourang-outang into the human family. Moreover, we find as attributes common to the three races just mentioned, the erect attitude, the two hands, the slow development of the body, and the exercise of reason. On the other hand, the whole structure of the monkey, who is four-handed, proves that to him the erect attitude is not natural. The striking characteristics of the predominance of the fore arm over the upper arm, and the great length of the upper and the shortness of the lower limbs, are peculiarly adapted to his climbing habits. How beautifully is the majestic attitude of man, which announces to all the other inhabitants of the globe his superiority, described in the words of Ovid:

Pronaque cum spectent animalia cetera terram,
Os homini sublime dedit; cælumque tueri
Jussit; et erectos ad sidera tollere vultus.

And while all other creatures to the dust
Bend their low look, to man a front sublime
He gave, and bade him ever scan the skies,
And to the stars lift up his lofty gaze."

Let us now examine the conclusions to which Dr. Nott has been led by his individual observations. He makes, however, this candid admission—"I am well aware that my assertions would have much greater weight if they were supported by statistics." Indeed, the limited number of cases falling under the observation of a single individual cannot, in any way, justify a wide conclusion. It is only on the basis of the data given by large numbers, that the doctrine of averages can claim our attention. Hence statistics on a small scale is equivalent only to the merest chance; for the statistician, when confining himself to the limited run of events peculiar to his own observation, may just as readily fall upon singularities as upon facts approximating an average character. It is only under the circumstances just mentioned, when the peculiarities and coincidences, among a myriad of facts, have been reduced to their average proportions by the opposite peculiarities and coincidences of another myriad of facts, that the application of numbers to the elucidation of the natural history of man in health and disease, is allowable; and then it constitutes in reality the mathematics of medical science.

The following are Dr. N.'s conclusions:

"1st. That the mulattoes are intermediate in intelligence between the whites and blacks.

"2d. That they are less capable of endurance and are shorter-lived than the whites or blacks.

"3d. That the mulatto women are particularly delicate—are subject to many chronic diseases, and especially derangement of the catemenia, prolapsus uteri, leucorrhœa, and other diseases peculiar to females.

"4th. That the women are bad breeders and bad nurses—many of them do not conceive at all—most are subject to abortions, and a large portion of their children die at an early age.

"5th. That the two sexes when they intermarry are less prolific, than when crossed on one of the parent stocks.

"6th. That the above facts apply with more force to the Terceroons and Quarteroons than to Mulattoes.

"7th. That during the severe epidemics of yellow fever in Mobile in the years 1837, '39, and '42, I did not see a single individual attacked with this disease, who was in the remotest degree allied to the negro race—I heard, however, of one or two cases in the practice of others."

Hence Dr. N. concludes "that the mulatto is a *hybrid;*" and "by this term," he says, "is understood the offspring of two distinct species."

We are of course under no obligation to contest these various conclusions, based upon the observation of a *single* individual; but in reference to the phenomena of hybridity, which have a close relation with the determination of species, we shall make a few more extracts from the article just referred to in the Biblical Repository:

"Species is defined by Buffon,—'A succession of similar individuals which re-produce each other.' By Cuvier,—'The union of individuals descended from each other, or from common parents, and of those who resemble them as much as they resemble each other.' He adds,—'The apparent difference of the races of our domestic species are stronger than those of any species of the same genus. · · · The fact of the *succession*, therefore, and of the *constant succession*, constitutes alone the *unity of the species*."

In further elucidation of the same point, we said—

"An identity of species between two animals, notwithstanding a striking difference in some particulars, has been inferred, as a general rule, if their offspring has been found capable of procreating. Although this doctrine has been generally maintained by our most distinguished naturalists, yet some have rejected it as a hasty generalization. The production of hybrids is a phenomenon observed not only among mammifers, but among birds, fishes, the insect tribes, and the vegetable kingdom; and when we survey the numerous facts opposed to the generally admitted law of nature that all hybrid productions are sterile, there would seem to be some ground for doubting the soundness of the general conclusion. Thus the dog and the wolf, and the dog and the fox, will breed together, and the mixed offspring is capable of procreating. And that mules are not always barren, is a fact not unknown even to Aristotle. But as hybrid productions are almost unknown among animals in their wild and unrestrained condition, it would seem that there is a mutual repugnance between those of different species; and thus nature guards against a universal confusion of the different departments of organized creation. Notwithstanding the occasional exceptions to the general fact of the sterility of hybrid productions, it has never been observed that an offspring similar to themselves has proceeded from hybrids of an opposite sex. The offspring of these animals is capable of being continued in successive generations only by returning toward one of the parent tribes. It is thus apparent that the *vis procreatrix* between different species, both in the animal and vegetable kingdoms, is very defective, and that the law of nature which maintains the diversity of tribes in the organized world, is not really infringed by the isolated phenomena observed in reference to hybrid productions. That animals generally have the same form and endowments now, as at the remotest period of our acquaintance with them, is an opinion confirmed by the oldest historical records, as well as by the works of art and the actual relics found in Egyptian tombs. The zoological descriptions of Aristotle, composed twenty-two centuries ago, are still faithful to nature in every particular. Hence it would appear that insurmountable barriers to the intermixture of species, at least among wild animals, have been provided by nature, in the instinctive aversion to union with other species, in the sterility of hybrid productions, and in the law of the reproduction of the corporeal and psychical character of the parent in the offspring.

"These facts have an important bearing upon the doctrine that mankind constitutes a single species. It is well known to horticulturists and those engaged in breeding domesticated animals, that, by crossing and intermixing varieties, a mixed breed superior in almost every physical quality to the parent races is often produced; and it has also been observed that the intermixture of different races of the human family has produced one physically superior, generally speaking, to either ancestral race. Now, as it is a law, according to the high authority of Buffon and Hunter, that those animals of opposite sexes, notwithstanding some striking differences in appearance, whose offspring is equally prolific with themselves, belong to one and the same species, it follows that these facts afford a strong confirmation of the conclusion deduced from many others, viz , that *there is but one human species;* for, as just remarked, while the offspring of distinct species (real hybrids) are so little prolific that their stock soon becomes extinct, it is found that the mixed offspring of different varieties of the same species generally exceeds the parent races in corporeal vigor and in the tendency to multiplication. This law, however, does not apply to the moral and intellectual endowments; for we find these deteriorated in the European by the mixture of any other race, and, on the other hand, an infusion of Caucasian blood tends in an equal degree to ennoble these qualities in the other varieties of the human family. It is, indeed, an undisputed fact, that all the races and varieties of mankind are equally capable of propagating their offspring by intermarriage; and that such connections when contracted between individuals of the most dissimilar varieties, as for instance the Negro and the European, prove, if there is any difference, even more prolific."

This tendency to a rapid increase is especially obvious among the so-termed mulattoes of the West Indies; and as here fortunately the endemic influence of unfavorable social causes do not, as in the United States, operate against the mulattoes, the result may be regarded as having a direct bearing upon the question at issue. Upon this point, we are content to adduce the evidence of the erudite and philosophic James Cowles Prichard, who, in regard to several mixed human races, observes as follows:

> "I believe it may be asserted without the least chance of contradiction, that mankind, of all races and varieties, are equally capable of propagating their offspring by intermarriages, and that such connections are equally prolific, whether contracted between individuals of the same, or of the most dissimilar varieties. If there is any difference, *it is probably in favor of the latter.*
>
> "If we inquire into the facts which relate to the intermixture of Negroes and Europeans, it will be impossible to doubt the tendency of the so-termed Mulattoes to increase. The Men of Color, or the mixed race between the Creoles and the Negroes, are, in many of the West India Islands, a rapidly increasing people, and it would be very probable that they will eventually become the permanent masters of those Islands, were it not for the great numerical superiority of the genuine Negroes."

Dr. Prichard gives a table, extracted from the work of M. Rugendas, showing the great number of Mulattoes in many parts of this continent. The following are a few of the estimates:

	Year.	Whites.	Men of Color.	Negroes.	Indians.
Mexico,	1824	1,360,000	2,070,000	8,400	3,430,000
Guatemala,	1824	190,000	320,000	10,000	965,400
Colombia,	1824	600,000	720,000	470,000	854,600
Peru,	1795	136,311	285,841	40,336	608,911
La Plata,	1824	475,000[*]	305,000	70,000	1,150,000
Brazil,	——	843,000	628,000	1,987,500	300,000
West Indies,	——	450,000	1,600,000		———

"In order to establish this general fact," says Prichard, "of the existence of intermixed tribes descended from different races of men, I shall give a short account of several examples, in which it appears that an entirely new and intermediate stock has been produced and multiplied.

"The Griquas, or Griqua Hottentots, are well known to be a tribe of mixed origin, descended from the Dutch colonists of South Africa on one side, and from the aboriginal Hottentots on the other. They live on the borders of the colonial territory, and are a numerous and rapidly increasing race. The Griquas now occupy the banks of the Gariep or Orange River, for the space of at least 700 miles, where their numbers were estimated some years ago to be at least 5000 souls. They are powerful marauders, and harass by their predatory incursions all the native tribes in their vicinity, and are frequently troublesome to the neighboring colonists. Great numbers of the same mixed race are in other parts thriving agriculturists; and there is a large community at Griqua Town, settled under the government of the missionaries of the United Brethren, by means of whose instructions they have been converted to Christianity, and have adopted the habits of civilized society."[†]

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[*] This total includes the Creoles.

[†] Thompson's "Travels in South Africa."

Prichard also describes a very remarkable race in the Brazils, termed by the Portuguese *Cafusos*, known to have sprung originally from a mixture of native Americans with the negroes imported from Africa.

> "But what gives these Mestizos a peculiarly striking appearance is the excessively long hair of the head, which, especially at the end, is half-curled, and rises almost perpendicularly from the forehead to the height of a foot or a foot and a half, thus forming a prodigious and very ugly kind of peruke. This strange head of hair, which at first sight seems more artificial than natural, and almost puts one in mind of the *plica Polonica*, is not a disease, but merely a consequence of their mixed descent, and the mean between the wool of the negro and the long stiff hair of the American."*

A description of another race of mixed origin and strongly marked characteristics, is given by Prichard, namely, "the Papuas, spread along the northern coast of New Guinea and the adjacent islands." Passing over the details of their characteristics, it is remarked in conclusion:—

> "It is not improbable that these tribes of the sea-coast may have come to the shore of New Guinea and the adjoining islands from some distant part of the Indian Archipelago; but, whatever was the quarter whence they spread, they appear to afford an example of a mixed breed of men, who retain certain characters derived from their double ancestry. These traits have, however, been transmitted as permanent characteristics through many generations, since in the time of Dampier they seem to have been fully developed."

Upon this point, the same patient investigator arrives at the following conclusion:—

> "It appears to me unquestionable that intermediate races of men exist and are propagated, and that no impediment whatever exists to the perpetuation of mankind when the most dissimilar varieties are blended together. We hence derive a conclusive proof, unless there be in the instance of human races an exception to the universally prevalent law of organized nature, that all the tribes of men are of one family."

It is well remarked by Prichard, that perhaps the solution of the problem of the unity of the human family, might be safely left on this issue, or be considered as obtained by this argument.

We have thus presented some statistical facts relative to the increase of the Mulattoes in the West Indies, and in some of the states of North and South America, which is certainly more than the two writers before us have done; and these statistics do not by any means bear out the conclusion of these same writers in reference to the Mulatto. "Philanthropist" has indeed said, as already quoted—

> "The same comparative mortality between the mulattoes and blacks exists in the West Indies and Guiana, where unfavorable social causes do not operate against the mulattoes, as in the United States."

Now, as we have no statistical knowledge in respect to this question in the United States, it is fairly presumable that the West Indies and Guiana have made no greater advances in this department of science.

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* Von Spix und Martius, "Reise durch Brasilien," Theil I., as quoted by Prichard.

Hence we cannot but feel surprised that any positiveness should be assumed on these points.

There is one proposition, however that we will not oppose, which is, "that the mortality of the free people of color, in the United States, is more than one hundred per cent. greater than that of the slaves." Although we have no positive data on this subject, yet we can indirectly confirm it by statistical facts relative to certain physical defects.

Although but indirectly connected with the leading object of this paper, yet it will not be regarded as out of place to present here the general results obtained from the statistics of the census of 1840, in relation to the *Deaf and Dumb*, the *Blind*, and the *Insane and Idiots*, both among the whites and the colored, and the comparative ratio between the free colored and the slaves.

CLASSES.	Non-slave-holding States and Territories.			Slave-holding States and Territories.		
	Deaf and Dumb.	Blind.	Insane and Idiots.	Deaf and Dumb.	Blind.	Insane and Idiots.
Free White persons	1 in 2247	1 in 3068	1 in 996	1 in 1902	1 in 2412	1 in 940
Colored persons, free and slave	1 in 704	1 in 545	1 in 158	1 in 3773	1 in 1729	1 in 1561

What an awful result is here presented as regards the condition of the free colored class of the non-slave-holding division! In respect to the ratio of *deaf and dumb*, it is found more than five times higher among the free than the slave; as regards the *blind*, the ratio is more than three times greater; and respecting the *insane and idiots*, the contrast is still greater, being as ten to one! The fact that there is no distinction, in either division, made between the free colored and the slave, is no argument against these results; but, on the contrary, as the non-slave-holding division has one slave for every fifty free colored persons, while the slave-holding division has one free colored person for every thirteen slaves, it follows that the contrast, were these exceptions excluded, would, in a relative degree, be augmented.

On the present occasion, we will attempt no explanation of these most extraordinary results, reserving it for our general view of the vital statistics of the United States; but, lest some of our readers should retort upon us that "figures are not facts," we will add, that in the Transactions of the Medical Society of the State of New York, vol. III., there is a paper entitled "*Statistics of the Deaf and Dumb in the State of New York, the United States, and in various countries of Europe, by T. Romeyn Beck, M. D.;*" and in this is found the following paragraph:

> "There is one comment," he says, "made by the editor of the work from which I have taken this abstract, to which I cannot too pointedly call the attention of my readers. It is the fact of the far greater prevalence of this infirmity among the free blacks than among the slave population. Thus in the ten Northern States,* as enumerated, the proportion is 1 in 1002, although there is scarcely a slave in these States. So also in the North-western district,† the

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* Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, Vermont, New York, New Jersey, Pennsylvania, and Delaware.

† Ohio, Indiana, Illinois, and Michigan.

proportion is 1 in 1323. While in the Southern States,* where all are slaves, the proportion is 1 in 3402, and in the South-western,† 1 in 4558. If physical causes have the slightest effect in producing this malady, does not the above statement prove that the condition of our free blacks is infinitely worse than that of their brethren at the South?"

This result is still further substantiated by a statistical account of the *Blind*, in the United States, by Samuel Hazard, Esq., of Pennsylvania. "The *non*-slave-holding states," he says, "give aggregately the proportion of colored blind at 1 in 912, while in the *slave*-holding states it is 1 in 1676 of the colored population."

We will here add one paragraph more, less on account of its preciseness than in being of very recent origin:

"*Paris Academy of Sciences, sitting of July* 10.—The only paper of general interest read was one by M. Moreau de Jounès, on the extent of insanity in France. The author's tables are founded upon the average of eight years, and are, therefore, announced as certain. They are probably nearly so; but as the last regulations respecting lunatic asylums have not been in force more than four or five years, and previously to the introduction of them there were in France, as there are still in some other countries, gross abuses as to returns, we may be permitted to question the accuracy of the early returns. The author states the number of insane persons in France to be 18,350. In every 1000, there are on an average 221 idiots and 112 epileptic persons. The annual mortality is great, being from nine to ten per cent.; but this is, we believe, quite within the average of the returns of other countries. M. Moreau de Jounès states a fact which, although not new to medical men, may surprise some readers. Instead of its being found that moral causes have a great preponderance in cases of insanity, it appears that of every ten cases, on an average, the loss of reason in seven proceeds from physical causes, and moral causes only operate on three. Taking the returns of M. Moreau de Jounès as correct—and we have no reason to suppose that they are wide of the truth, M. Moreau de Jounès being a most careful and conscientious statistician—they show an important result, viz., that the number of insane persons in France is considerably less than has hitherto been supposed."

Let us now return to Dr. Nott, who, contrary to the voice both of humanity and of philosophy, maintains that "*the Anglo-Saxon and Negro races are distinct species.*"

The solution of the problem of the *unity* of the human family, as before remarked, might be safely left to the argument connected with the phenomena of hybridity; but this is but one among numerous general principles which go to establish the same conclusion. To answer the various questions started by Dr. N., would, however, require the space of this whole number. Thus—

"Look first," he says, "upon the Caucasian female with her rose and lily skin, silky hair, Venus form, and well chiseled features—and then upon the African wench with her black and odorous skin, woolly head and animal features—next compare their intellectual and moral qualities, and their whole anatomical structure, and say whether they do not differ as much as the swan and the goose, the horse and the ass, or the apple and pear trees. How all this comes to pass is not for me to say—it has pleased the Creator, at some period of time, so to make or change them. The American Indian, too, though living in all latitudes and in a savage state; besides his hair, beardless chin, well-shaped foot and leg, and tawny skin, has many other peculiarities which are just as striking."

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* Maryland, District of Columbia, Virginia, North Carolina, South Carolina, and Georgia.

† Alabama, Mississippi, Louisiana, Tennessee, Kentucky, Missouri, Arkansas, and Florida.

We shall now briefly notice several of these points, continuing our extracts from the Biblical Repository; and first of the *complexion.*

"In order to show that the complexion, as well as the color and texture of the hair, belonging to any particular race, are not *distinctive,* but merely *typical* characteristics, it will be necessary to take a general survey of mankind. It will be found that these characteristics become so modified, altered, and evanescent, that to draw an absolute line of demarcation among five, or any other number of varieties of the human family, is totally impossible. The Negro and the European are the two extremes, which, as in every other particular in which the various tribes of human kind differ, pass into each other by insensible gradations. The terms, white and black races, can be used only in the general sense of Caucasian and Ethiopian varieties. The complexion implies no distinction of species; for it can be readily shown that, in this respect, the African tribes vary much, that the American aboriginals exhibit the extremes of white and black, and that even the Caucasians, generally characterized as white, present nations decidedly black. In the frontispiece to the third volume of Prichard's 'Researches into the Physical History of Man,' we have a striking specimen of a black Caucasian, being a portrait of Rahomun Roy—'a Brahmin of undoubtedly pure race.' Among the Arabs, according to the country they inhabit, we discover the extremes of complexion. 'The general complexion of the Shegya Arabs,' says Mr. Waddington, 'is a jet black.' He adds—'The Shegya, as I have already mentioned, are black—a clear, glossy, jet black, which appeared to my then unprejudiced eyes to be the finest color that could be selected for a human being. They are distinguished in every respect from the Negroes by the brightness of their color; by their hair and the regularity of their features; by the mild and dewy lustre of their eyes; and by the softness of their touch, in which last respect they yield not to Europeans.' As the Arabs on the Nile do not intermarry with the natives, as appears by the accounts given by Burckhardt and Ruppell, the blackness of their complexion can be ascribed to climate only. In more northern, and particularly in more elevated regions, the hue of the Arab's skin is not less fair than that of the European. 'The Arab women,' says Bruce, 'are not black; there are even some exceedingly fair.' Among the Otaheitans, who have been long celebrated for their personal beauty, the skin of the lower orders has a brown tint, which becomes so gradually lost in those of a superior caste, that the complexion in the higher ranks is nearly white, or at least but slightly tinged with brown. On the cheek of the women, a blush may be readily observed. The usual color of the hair is black, but it is of a fine texture, and not unfrequently brown, flaxen, and even red. Of the natives of the Marquesas, it has been said that 'in form they are, perhaps, the finest in the world,' and that their skin is naturally 'very fair;' while in the color of their hair, all the various shades found in the different tribes of the Caucasian race, are exhibited.

"Even among the American tribes, known the world over as the '*red-man*,' the most remarkable diversities of complexion are presented, varying from a decided white to an unequivocally black skin. Of so deep a hue are the Californians, that La Perouse compares them to the Negroes in the West Indies. 'The complexion of the Californians,' he says, 'very nearly resembles that of those Negroes whose hair is not woolly.' In contrast to these black Californians, we have, on our north-west coast, tribes with skins as white as the complexion of the natives of southern Europe. Captain Dixon describes a female whose 'countenance had all the cheerful glow of an English milk-maid, and the healthy red which flushed her cheek, was even beautifully contrasted with the whiteness of her neck; her forehead was so remarkably clear that the translucent veins were seen meandering even in the minutest branches.' 'Although the Americans,' says Dr. Morton, 'possess a pervading and characteristic complexion, there are occasional and very remarkable deviations, including all the tints from a decided white to an unequivocally black skin.'"

Upon this point, Dr. Prichard comes to the following conclusion:

"That the different complexions of mankind, are not permanent characters, may be sufficiently proved by numerous facts collected from the physical history of particular races of men. It is hardly necessary, in this instance, to appeal to the infinite number of phenomena which are to be found, precisely analogous in all the circumstances of their origin and subsequent propagation and permanence in entire breeds, in the various tribes of animals, there being scarcely any tribe of warm-blooded creatures which are not subject to become thus diversified. The reader will find in the following outline of the history of particular tribes of the human family, instances of this variation of color,—of a change from white to black, and from black to white, or of both complexious actually subsisting in the undoubted progeny of the same stock; and these instances so multiplied and so well authenticated, as to leave no doubt as to the conclusion which we are obliged to draw in this part, at least, of the investigation before us, as to the great question of the unity or diversity of the human species."

Next, as regards the *hair*.

"As much stress has always been laid upon the national differences of the human hair, by those who hold that the Negro is of a distinct species from our own, a few general observations will not be deemed out of place. As regards the *hair, beard, and color of the iris*, we observe, indeed, strongly marked varieties, all these having a relation with the color of the skin. While the head of the Caucasian race is adorned with an ample growth of fine locks, and his face with a copious beard, the Negro's head presents short woolly knots, and that of the American or Mongolian, coarse and straight hair, all having nearly beardless faces; and with this diminution of the beard is combined a general smoothness of the whole body. That the coloring principle in the skin and hair is of a common nature, is evident from the fact, that among the white races every gradation from the fair to the dark is accompanied by a corresponding alteration in the tint of the hair. This remark applies equally to the colored varieties of men, for all these have black hair; but among the spotted Africans, according to Blumenbach, the hairs growing out of a white patch on the head are white. These facts in connection with others observed among inferior animals, as the dog, sheep, and goat, prove sufficiently that a distinction of species cannot be established on the mere difference in the hair. Upon this point, Prichard very happily remarks:—

> "That if this cuticular excrescence of the Negro were really not hair, but a fine wool,—if it were precisely analogous to the finest wool,—still this would by no means prove the Negro to be of a peculiar and separate stock, since we know that some tribes of animals bear wool, while others of the same species are covered with hair. It is true that in some instances this peculiarity depends immediately on climate, and is subject to vary when the climate is changed; but in others, it is deeply fixed in the breed, and almost amounts to a permanent variety."

But the so-called *woolly* hair of the Negro is not wool in fact, but merely a curled and twisted hair. This has been proved by microscopic observation, upon the well-known law, that the character which distinguishes wool from hair consists in the serrated nature of its external surface, giving to it its felting property.

We shall notice one more assertion:

> "There are also some curious facts," says Dr. Nott, "connected with the brain and intellectual faculties, which bear strongly on the question of distinct species. It is well settled by anatomists and physiologists, that the brain of the Negro, compared with the Caucasian, is smaller by a full tenth; that its nerves are larger, the head differently shaped, the facial angle less, and the intellectual powers comparatively defective."

Without disputing the proposition, it would certainly have been desirable, on the part of Dr. Nott, to state upon what authority he makes the assertion that anatomists and physiologists have determined that the cranium of the Negro has less capacity than that of the European. Tiedemann, who is very high authority, shows, for instance, that there is no difference,—a result based on numerous measurements. But surely this test of the mere relative capacity of European and Negro skulls, does not afford a fair criterion of the comparative degree of intellectual power; for no one who has kept pace with the progress of modern psychological science, will deny that the organs through which the nobler attributes of man act and manifest themselves reside in the anterior portion of the brain; and hence how absurd is the idea of taking the whole mass of the brain as a standard of moral and intellectual power! But as this new theme opens upon our view a multiplicity of questions, we are obliged to cut short the whole subject with one argument more.

The classification of skulls under five general forms, viz., the Caucasian, Mongolian, American, Ethiopian, and Malay, is of course entirely arbitrary; and as in every other corporeal diversity, so we find in regard to crania an imperceptible gradation among the nations of the earth, filling up the interval between the two extremes of the most perfect Caucasian model and the most exaggerated Negro specimen. Hence we must conclude that the diversities of skulls among mankind do not afford sufficient ground for a specific difference—an inference confirmed, as will be seen, by the variations which occur in animals of the same species. We might show, as we think, conclusively, did space allow, that there is a connection between the leading physical characters of human races, (and especially as regards cranial formation,) and the agencies of climate and their habits of existence. This is very apparent in the configuration found in our Aborigines, and equally so in all other races in the nomadic and hunter conditions, consisting of the greater development of the jaws and zygomatic bones; in a word, of the bones of the face altogether, as compared with the size of the brain. That the development of the organs of taste and smell, is in an inverse ratio to that of the brain, and consequently to the degree of intelligence, is considered by Bichat as almost a rule in our organization. By this principlo, as an index to those exalted prerogatives which elevate man above the brute, was the Grecian sculptor guided. Although, upon this point, the facial angle of Camper is not an exact test, yet it may be remarked that in the human race, it varies from sixty-five to eighty-fivo degrees, the former being a near approach to the monkey species. Among the remains of Grecian art, we find this angle extended to ninety degrees in the representation of poets, sages, legislators, etc., thus showing that the relation here referred to was not unknown to them; while, at the same time, the mouth, nose, jaws, and tongue, were contracted in size, as indicative of a noble and generous nature. In the statues of their gods and heroes, the Greeks gave a still greater exaggeration to the latter, and reduction to the former characteristics, thus extending the forehead over the face, so as to make a facial angle of one hundred degrees. It is this that gives to their statuary its high character of sublime beauty. Even among the vulgar, we find the idea of stupidity associated with an elongation of the snout.

With this condensed and, at the same time, imperfect, view of this grand question, we submit it to our readers, who will not fail to perceive that both Dr. Nott and a "*Philanthropist*," in the laudable desire no doubt to advance science, have unfortunately made a retrograde movement in human knowledge, opposing, of course undesignedly, the onward march of civilization; and it has ever been thus, by denying an equality in the original endowments of certain families of the human race, that writers have attempted to justify the institution of perpetual servitude. How much more noble, more generous, and just, are the reasonings of M. Voisin, a French philosopher—a class who are seldom accused of leaning toward the doctrines of the Bible—contained in the following extract:

> "It is by working in this direction, by overstepping those lines of demarcation which pride and ignorance have set up between man and man, by studying the brains of individuals and of nations, by disclosing their organization, by showing that they are all made upon one model, by placing on the same line, as to their intellectual and moral faculties, alike the Negro and the European, that science may yet have to rejoice in giving a firm basis to morality, or at least in consecrating some of its best principles. It justifies the eloquent pleadings of those gifted men who, being far a-head of the age in which they lived, have deemed it their sacred duty to consider the whole human race as one family, and to claim for every one alike equal liberty, justice, and protection."*

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* *De l'Idiotie chez les Enfans, etc.* Par F. Voisin. Paris, 1843. From the *Medico-Chirurgical Review,* for July.

Art. III.—*Case of Ovarian Tumors—both the right and the left being removed at the same operation*, by Jno. L. Atlee, M. D., of Lancaster, Pa. [Communicated by letter to the Editor, by J. M. Foltz, Esq., Surgeon U. S. Navy.]

Lancaster, Pa., August 1, 1843.

My Dear Doctor—A few days ago I was invited by my old friend, Dr. Jno. L. Atlee, of this city, to accompany him on a visit to the patient from whom he removed, seven weeks ago, *two ovarian tumors.* As the operation of removing both diseased ovaria had never been previously performed, I felt much interest in seeing the case. We found the patient waiting to accompany her surgeon on a morning drive, agreeably to previous arrangement; but the Doctor was prevented doing so, in consequence of unforeseen professional engagements. The lady, who is under thirty years of age, and has never been married, had suffered from ascites for the last three years; and for this disease, she had been tapped four times, the ovarian tumors having remained undetected until after the third *paracentesis.* Convinced that these enlarged ovaria were the cause of the dropsy, Dr. A. proposed their removal, to which the heroic patient consented.

An incision about nine inches in length, in the course of the linea alba, and commencing at the pubes, was made into the abdominal cavity. The left ovarian tumor was found attached merely by the round ligament, which floated free in the abdomen; while the tumor on the right side, adhering about two-thirds of its extent to the brim of the pelvis and the omentum, required some careful dissection in its removal. They were both removed without any copious hæmorrhage; and this large wound, which was brought together by the interrupted suture, is now, seven weeks after the operation, completely united, with the exception of the lower extremity, where the ligatures upon the round ligaments still remain. As not an unfavorable symptom has thus far been presented, the patient may be safely pronounced out of all danger incident to this terrible and unprecedented operation.

Although the removal of diseased ovaria had its advocates in the last century, the operation (*vide Good's Study of Medicine*) having been actually done, and successfully too, in 1776, by L'Aumonier, surgeon-in-chief of the hospital of Rouen; yet, in consequence of its condemnation by such high authority as the names of De Haen and Morgagni, it became so completely neglected, that when Dr. McDowell, of Kentucky, reported three cases in which he had operated successfully, it was discredited by the Medico-Chirurgical Review; but this opinion was doubtless due in part to certain improbabilities connected with the details.

Professor N. Smith, of Yale College, reported, in 1822, in the American Medical Recorder, an interesting case of the successful extirpation of an ovarian tumor. In 1826, Dr. David L. Rodgers, of New York, performed the same operation; and so successful was the issue, that "in six weeks from the period of the operation, her catamenia had returned, and her health entirely recovered." This operation has been done no less than five times by Dr. Clay, of Manchester, and each time, too, successfully. Dr. Reese, in his notes to Cooper's Surgical Dictionary, says, that in the London Medical Gazette, for 1829, three cases of extirpation by Carysman, are reported by Dr. Hopfer, of Biberback; and that of these, two proved fatal, while the third was so successful that the woman subsequently bore children. In the Edinburgh Journal, for October, 1820, it is related by M. Lizars, that he attempted to extirpate an ovarian tumor; but no tumor was found, and the case proved fatal. Two cases of the operation have since been reported by the same distinguished surgeon, but the results are not known. Dr. Alban Goldsmith, of New York, has also operated by extirpation thrice; the first two having been successful, while the last proved fatal; but in the third case he ascribes the unsuccessful issue solely to the circumstance, that he had trusted to an animal ligature, which, giving way prematurely, caused the supervention of secondary hæmorrhage within the abdominal cavity. By Professor Mussey, of Cincinnati, a successful case is reported, in which he opened the sac and effected adhesion between its walls.

As regards the extirpation of these tumors, the late Dr. McDowell, of Kentucky, may be considered a sort of pioneer, having done it oftener and more successfully than any other surgeon in the world; besides, he laid open the peritoneum to a great extent for extirpating other abdominal tumors. But Dr. Goldsmith relates a curious case in which he was concerned with this pioneer-operator. The patient, who had suffered, during a considerable period, from ascites, had tapped herself no less than ninety times; and discovering at length a tumor, which she supposed to be the cause of her dropsy, she made application to Dr. McDowell for its extirpation. The event, however, proved, much to the surprise of the two surgeons, that the tumor was merely a mass of the intestines conglomerated by adhesions. The operation was abandoned, and the woman died; but this case, as well as that of Lizars', should certainly not be placed in the category of unsuccessful operations for this disease.

In view of this liability to error in our diagnosis, this operation is even now condemned by many. "I have known," says Dr. Reese, in his notes to Cooper, "a number of these 'exploring operations,' as they are called, result disastrously, like Dr. McDowell's case; for in several instances the operation has been abandoned, but the patient has died on the table. To cut into the abdomen in an exploring expedition may well be regarded as of questionable morality, and is 'most villanous surgery.'"

I have thus briefly summed up a history of the operations for diseased ovaria, under the belief that these cases, combined, tend to establish a new principle in surgery, viz, the comparative safety of making large openings into the cavity of the abdomen. Wounds of the abdomen, involving lesions of the intestines or other abdominal viscera, with the operations for strangulated hernia, have been the only cases in which surgeons have interfered with the abdominal contents; and the great fatality of these cases always inspires much apprehension, when the abdominal cavity is opened. The successful result, generally speaking, attending the extirpation of enlarged ovaria, would seem, however, to show that operations within the abdomen are, by no means, so fatal as the profession have been led to believe—an opinion that is substantiated by the difficulty so frequently experienced in exciting inflammation in the tunica vaginalis testis, in the operation for hydrocele. Besides, in the case before us, in which both ovaria have been extirpated, for the *first* time, we have additional evidence of the comparative safety of this operation. Here, then, is another of the triumphs of American surgery,—the introduction of an operation with much practical effect, which is regarded in Europe, with few exceptions, as unsafe and impracticable.

The tumors weighed two pounds: one, a pound and a quarter; and the other, three-fourths of a pound. But a further detail of the case might be deemed improper, as a full account of the operation and of the subsequent treatment, has been promised by Dr. Atlee for the American Journal of the Medical Sciences.

I am, respectfully, yours, &c.,

J. M. FOLTZ.

To SAMUEL FORRY, M. D.

ART. IV.—*Obstetrical Auscultation.*—By H. VAN ARSDALE, M. D., of New York.

AUSCULTATION, as a means of diagnosis in pregnancy, though universally acknowledged to be of great importance, has not yet received in this country the attention that it deserves. The repugnance which most private patients have to its employment, especially during the progress of their pregnancy, and the limited opportunities for observation afforded by our hospitals, constitute perhaps the chief reasons why so little has been said or written on the subject. The author claims but little of originality in the following paper. The theories and opinions here advanced, have been mostly adduced from European writers; and from the mass of conflicting opinions on this subject, those have been adopted which have been found to correspond with the author's own observations.*

Dr. Mayor, of Geneva, in the year 1818, perceived for the first time, through the abdominal parietes, the pulsations of the fœtal heart; and he thus added, in the latter stage of pregnancy to the signs already known, this new sign, more certain than all the others.

But with the mere discovery, stopped his investigations; and notwithstanding this new ray of light had been let in upon the medical world, it attracted but little attention, until three years afterward, when mere chance led M. de Kergaradec to apply the method of Laennec to the study of pregnancy. It is, therefore, to this physician, rather than to the original discoverer, that belongs the credit of having directed, in an especial manner, the attention of obstetricians to this new mode of diagnosis,—of having himself made numerous applications of the discovery,—and of having constructed a table, almost complete, of the advantages which might arise from its employment.

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* The works here referred to are chiefly "*Auscultation Obstetricale*," *par M. le Docteur Depaul*; "*Traité Pratique d'Auscultation*," *par MM. Barth et Roger*; "*Traité Pratique d'Accouchments*," *par M. Moreau*; and a "Thesis on Obstetrical Auscultation," by Dr. Carriere, published at Strasbourg.

M. Kergaradec died, leaving this legacy to the world; but it remained for a long while without having its just value appreciated. Indeed, several eminent French physicians, after the appearance of his work, pretending to have investigated the subject, not only denied the value and importance of the discovery, but some even contended that the new means were entirely ideal and false, instead of being true and useful. They averred that they had listened and investigated, but that they were unable to discover any stethoscopic signs in the pregnant woman, which they could not find with equal ease in the unimpregnated state. And so much weight and influence did the opinions of these men exercise, that the new method was once more threatened to be neglected, if not entirely forgotten.

In Germany, the discovery was received with more favor, and several of the leading German physicians made minute and lengthy researches, and almost all of them confirmed the results obtained and published by M. Kergaradec. In 1823 appeared the work of Ulsamer, founded on numerous observations; and he contended that auscultation was one of the best means of determining the existence and date of pregnancy,—of recognising the presence of more than one child,—of determining the situation of the fœtus in utero,—and of disclosing to the accoucheur the best period for performing upon the pregnant woman those operations which necessity may at times compel him to execute.

In 1826, M. Krusse published a thesis, having for its title, a "Dissertation on Obstetrical Auscultation;" and in this, he asserts that the absence of the sounds of the fœtal heart after the fifth month, is to be regarded as proof of the death of the fœtus. This, however, is not always true. In 1829, M. Manche thought the stethoscopic signs were only valuable as applied to the lower segment of the uterus; and for the better appreciation of these signs, he invented an instrument which he called a metroscope. This instrument consisted of a cylinder of wood, about twelve inches in length, and curved in the shape of the vagina, with the superior end hollowed out to receive the neck of the uterus; and this being introduced into the vagina, one end was applied to the neck of the uterus, while the operator placed his ear against the opposite extremity. But this instrument, besides being very painful to the woman, was found to give no more accurate results than the external examination; and it was, therefore, abandoned.

Some time after, M. Stolts, in the article entitled "Auscultation," in his Dictionary of Medical Studies, entered into a long argument on the value of the stethoscopic signs in pregnancy; and he came to the conclusion that the uterine souffle is only perceived at the point where the placenta is inserted, and that the position of the fœtus can be diagnosed from the pulsations of the fœtal heart.

In 1835, Dr. Depaul of Paris first turned his attention to this subject; and it is he who has given the most exact results, as well as the most precise value of the stethoscopic signs in pregnancy. Connected with the Maternité lying-in hospital, his opportunities for examination and investigation were unbounded; and keeping an exact register of his various examinations,—of his diagnoses,—of his views at the time of making the examinations,—and of their subsequent proof,—he has been enabled to give to the world accurate statistics of the value of each stethoscopic sign; and to these data, reference will be frequently made in the sequel of this treatise.

Obstetrical Auscultation consists in the application of the ear or stethoscope to the abdomen of the pregnant woman; and its object is, to discover those peculiar sounds which are dependant upon pregnancy. Among the sounds which auscultation thus reveals, are two, which have an especial importance: these are the *uterine souffle*, and the *pulsations of the fœtal heart.* The former, or uterine souffle, though an important sign of pregnancy, is an *uncertain* one; but the latter, or the pulsations of the fœtal heart, is a certain and positive sign.

I.—THE UTERINE SOUFFLE.

M. Kergaradec, who first recognised the existence of this sound in the majority of pregnant women, regarded it as closely allied to the circulation of the placenta; and he, therefore, gave it the name of "placental souffle." Toward the end of the same year, Paul Dubois proved that the utero-placental vessels, as well as the strictly placental ones, were not concerned in its production, and he named it the "uterine souffle." This is, perhaps, the most appropriate term, as it not only expresses the origin of the sound, namely, the uterus, but also conveys an idea of the nature of the sound, that is, the souffle.

Some pretend to have discovered an analogy between the uterine souffle, and the various arterial souffles. There is in the former a peculiar resonance which belongs only to itself. In general it is pure and undulating, and is separated from the succeeding sound only by a very short interval. Those authors who have named it simple pulsation, or pulsation with a souffle, have not well understood the sensation it produces, because there is no pulsation or shock. It is a sound which cannot be compared to any other, and it is remarkable for the infinite variety it presents, both in the same and in different individuals.

For example, take the following table. In 336 women who afforded this souffle, it was discovered simple 227 times, although the examination was renewed at different periods of gestation. In forty-nine cases, the sound was *sibilant* or whistling, and with a very variable intensity. In twenty-nine cases it was of a *souflant* or snoring character; and in the thirty-two other cases, different sounds were discovered at different times. These results, when compared with the dates of the pregnancy at which they were obtained, also establish, in a general manner, the fact, that the intensity of this souffle varies from the moment of its appearance to the end of the sixth month, and that after this period its force remains nearly the same, notwithstanding subject to variation in its character; and often, too, it changes its place—changes which sometimes surprise and confuse an inexperienced ear.

Notwithstanding the almost innumerable changes which this souffle may undergo, there is one character which is invariable, namely, its perfect coincidence with the pulse of the mother. It sustains all the changes which that pulse undergoes, and is subject to all its influences; in health, or in sickness, an exact correspondence is always found; in fainting it disappears entirely. These facts prove that the uterine souffle is dependent upon the arterial circulation of the mother.

The various opinions and opposing theories on the cause and origin of the uterine souffle, are curious in themselves and not without their value.

It has already been stated that M. Kergaradec, the discoverer of this souffle, believed that it originated at the point where the placenta was attached to the uterus; but a later writer, Dr. Hohl, believes that the souffle is due to the placental circulation, and in support of this opinion, he offers the following propositions, which are here answered.

1. "No sound similar to this souffle is heard in any condition but pregnancy." This is not true, for it has been heard in other conditions.
2. "That it can be heard in almost every pregnant woman.
3. "That it is first heard in the fourth month of pregnancy, when the uterine vessels dilate and extend themselves to form the uterine portion of the placenta." As these second and third propositions are equally true, if we account, in any other manner, for the production of the souffle, they are, therefore, of no value.
4. "That it is most frequently heard on the right side of the uterus, where the placenta is usually situated." If it be true that the souffle is oftenest heard at the point where the placenta is situated, it is equally true that the uterine vessels are at that point more enlarged than at any other, and it may hence as well depend upon these vessels as upon the vessels of the placenta.
5. "This souffle is heard in a space circumscribed, and corresponding to the size of the placenta." This is not true, for it is sometimes heard in two distinct places, and sometimes at all points of the uterus.
6. "The intensity and clearness of the souffle decrease as the placenta becomes detached, and the sound entirely ceases as soon the placenta has been expelled." This is by no means true, for the souffle has been heard after the expulsion of the placenta; and it has been discovered in cases where women were delivered of children dead and putrefied, with the blood in the placenta coagulated.

Moreover, although it is unquestionably true, that the insertion of the placenta has been found to correspond with the precise point at which the souffle has been heard previous to delivery, yet it is, by no means, the universal rule. In several cases in which Dr. Depaul was obliged to introduce his hand to destroy the unnatural adherence of the placenta to the uterus, he found, by noting carefully during the progress of the labor the points where the souffle was most distinctly heard, that the insertion of the placenta did not correspond with the point at which he had heard the souffle.

Besides, during an epidemic puerperal fever, he had repeated opportunities of examining the uteri of women dead of peritonitis, while the traces of the adherence of the placenta to the uterus yet existed; and having in these cases before death, noted the point of origin of the souffle in many instances, these points did not at all correspond.

Laennec supposed that this souffle was produced in the principal artery which nourishes the placenta; but when called upon to demonstrate this artery it could not be found. Paul Dubois asserts that it is produced in those parts of the uterus which are most vascular, namely, in the lateral portions of that organ, as well as at the insertion of the placenta.

Some contend that it is produced in the iliac artery; but is this souffle of the same nature as the common arterial souffles? The various souffles which are produced in the aorta or the principal arteries, are always accompanied by a shock more or less severe; and they seem, as it were, to come from a distance, having seldom any of those irregularities which so often attend the uterine souffle. These circumstances plainly show that it is not of the same nature as the common arterial souffles.

It is thus plainly evident that this souffle is not produced in the large arteries, and the simple fact that it has been heard in cases after the expulsion of the placenta proves beyond a doubt that it cannot depend either upon the placental vessels or the utero-placental ones. It must, therefore, be produced in the uterus itself. What then is the cause which so modifies the circulation of the uterus, as to produce this souffle? Dr. Kennedy compares the structure of the uterus during gestation to that of aneurism by anastamosis, and finds a complete resemblance between the sounds in these two different conditions.

The following theory, advanced by Dr. Depaul, seems to be the most plausible one: it is certainly a very ingenious one.

It cannot be denied that while the proper tissue of the uterus increases as pregnancy advances, the vessels which nourish that organ also increase in calibre. The veins which leave the sides of the uterus to return the blood to the hypogastric vein, have acquired a considerable capacity by the time they reach their respective trunks; and, on the other hand, the arteries of the uterus, while they are much enlarged in the uterus itself, are very little changed at the points where they are given off. Hence, while the venous blood finds an easy exit from this enlargement, and the veins are kept full to the very point where they empty into the larger vessels, the supply of arterial blood is not sufficient completely to fill the arteries of the uterus; for the reason, as we have just seen, that the vessels which bring that blood to the uterus have not enlarged in proportion to the vessels of the uterus itself. Now we already know that liquids which circulate in tubes do not produce any sound as long as those tubes are of equal calibre, and are kept full. This ceases to be true, when a contraction succeeds a dilation, or when the liquid is not in sufficient quantity.

At the point where the arteries penetrate the substance of the uterus, they are dilated, having consequently a calibre too large for the supply of blood which they receive; and this flow of blood in vessels too large for the quantity contained, accounts for the production of the uterine souffle; and here it may be added that this disproportion is not known to exist in any other part of the body.

But it may be asked,—If this be the true explanation of the production of this souffle, why is it not the same at all times and under all circumstances? Indeed, it has been already stated, that it not only changes its place, but sometimes entirely disappears.

If we receive as the theory of the production of this souffle, the enlargement of the arteries disproportionate to the supply of blood, cannot the changes in the souffle be accounted for by the ever-varying position of the fœtus? That this is the most probable explanation, appears from the following reasons: First. The arteries, as they are but partly filled with blood, must necessarily be more easily compressed than if full; and second, Because this very phenomenon has been frequently witnessed by Dr. Depaul, who, while listening to this souffle, has perceived a movement of the fœtus; and immediately the souffle either changed its place, or it was for a time entirely lost.

It is important to know at what period of pregnancy this souffle may be heard for the first time. According to M. Kergaradec, it is not heard until after the fifth month; but, according to M. Monod, it may be heard toward the end of the fourth month. Dr. Depaul has made observations on this point in 380 cases; 307 of which had already passed the fifth month; and in 295 of these, it could be easily distinguished; but seventy-three had not yet reached the middle term of pregnancy. In the remaining twelve, the souffle could not be heard at any period; and in three of these there was a remarkable thickness of the abdominal parietes, while in the remaining cases there was nothing that should have prevented the hearing of the souffle, if it had existed. Of the seventy-three cases which had not yet reached the middle term of pregnancy, eleven had arrived at the end of the third month, and in *one* only of these was the souffle heard. Five were not so far advanced; and in them no souffle was heard. Twenty-two were between three and a-half and four months; and among these, the souffle was perceived in thirteen. In the nine others, it did not exist. Hence in thirty-six, who were near the end of the fourth month, this souffle was heard in all but nine.

M. Naegele asserts, that among thirty-five women, he has heard the uterine souffle in three, in the fourteenth week.

Forming a rule from these results, it would seem that this souffle is never heard as early as the beginning of the third month, and seldom at the end of the third month; but that in the latter part of the fourth month, and in the successive ones, it may usually be discovered. Consequently, in the first half of pregnancy we should scarcely expect to find it; while in the latter half we should always look for it confidently.

What is the most favorable point for hearing this souffle?

Of 295 cases, which afforded the souffle in question, it was distinctly heard in 182 of them on each side of the uterus, at a short distance above the crural arch. In twenty-seven of these cases, it could be heard only on one side and in the same place. In forty-three of them, it was heard at the base of the uterus; and in eighteen, the stethoscope could be placed nowhere on the uterine globe without discovering it plainly. In twelve cases, it could be heard in three distinct places; namely, at the sides, a short distance above the crural arch, and also at the base. Thus it would seem that this souffle is oftener heard double than single; and the points where we should first search for it, should be at the lateral portions of the uterus just above the crural arch.

In estimating the value of the uterine souffle, the first question that arises is: Are we to consider the detection of this sound a pathognomonic symptom of pregnancy, or may it be heard in abnormal conditions of the uterus or its appendages? If, according to some observers, it is produced in the vessels of the placenta, or if, according to others, it is produced in the utero-placental ones, then ought it to exist in pregnancy only.

Unfortunately for the advocates of both these theories, the uterine souffle has been heard in cases which time has proved to be other than cases of pregnancy. The recital of one or two of such cases, from several before me, will best show how this souffle may exist independent of pregnancy.

Case I.—In 1838, a woman, who had been married three years, without having had any children, was admitted into the hospital of La Pitié. For the last six months her menses had entirely disappeared. She presented most of the ordinary signs of pregnancy; and for the few previous weeks, she supposed she had felt the movements of a fœtus. The neck of the uterus, however, did not present the usual alterations, being in a state nearly natural; but, on applying the stethoscope, the uterine souffle was *distinctly heard*, at different intervals and in different positions. She had been at the hospital but a short time, when she was seized with a violent peritonitis, of which she soon died.

The autopsy revealed the fact that the enlargement of the abdomen was due to a fibrous tumor of the uterus, which had acquired the volume of that organ at about the fourth month of gestation. As there was here no placenta to which the uterine souffle might be attributed, it must have been produced in the enlarged vessels of the uterus.

Case II.—A woman believing herself to be about six months pregnant, applied for admission at the Maternité. Her menses had never entirely disappeared, but the swelling of the abdomen, the increase in size of her breasts, and occasional nausea and vomiting, left no doubt in her own mind as to her being pregnant. The neck of the uterus had undergone considerable alteration, being somewhat shortened and much softened. Auscultation discovered the uterine souffle, in several places, loud, pure, and *perfectly natural*, and her case was believed by her examiners to be one of pregnancy. Two months after, she was seized with irregular pains, and she believed herself to be in labor. Upon examination the neck of the uterus was found to be not the least dilated. The pains were followed by a violent peritonitis, of which she died in forty-eight hours.

A post-mortem examination disclosed a large fibrous tumor of the uterus.

These two cases are sufficient to show that the uterine souffle may exist in other conditions than pregnancy. It is, however, rare to find cases so well marked, and appearing to coincide so closely with cases of pregnancy, as those just detailed. If these cases have any value, it will be understood why this sign of pregnancy was considered an uncertain one. M. Monod has asserted that the uterine souffle gives exact ideas of the state and condition of the fœtus; but this is by no means true. Dr. Meigs, in his Philadelphia Practice of Midwifery, says that "the placental souffle indicates not only the presence of a fœtus, but that it continues to live, the sound always ceasing as soon as the fœtus expires." But this is equally untrue.

The uterine souffle, then, though not a *certain* sign of pregnancy, is yet a most valuable one, in diagnosis; but its absence does not entirely exclude the idea of pregnancy existing. It does not seem to be of any value in detecting the diseases of the placenta; for in several cases of induration and apoplexy of the placenta, which occurred to Dr. Depaul, there was no modification in the souffle to lead him to suspect the existence of either of these diseases. Neither is it of any value in detecting cases of double pregnancy, for it is sometimes heard in several distinct places when there is only one child; nor does it throw any light upon the condition of the fœtus, inasmuch as it may exist whether the child be well or ill, alive or dead.

The preceding remarks upon the nature and value of the uterine souffle, will, it is thought, justify the following propositions:

1. This souffle differs entirely from the various souffles which are met with in the arteries. If they are all isochronous with the contractions of the left ventricle, still the souffle in question has characters which belong to it only; such as, its freedom from any shock, its closeness to the ear, and its want of uniformity.
2. If it is discovered in the vast majority of cases of pregnancy, still it may sometimes be found in other conditions of the uterus, more especially in fibrous diseases of that organ.
3. It cannot, therefore, be regarded as a certain sign of pregnancy, notwithstanding it is a symptom of great importance.
4. It is produced in the uterine arteries; and the explanation of its irregularities, intermittences, and its change of place, may be found in the difference of the calibre of the arteries on penetrating the womb, and also in the change of position of the fœtus in utero.
5. The point where this souffle is perceived does not always correspond with the insertion of the placenta.
6. The period of its appearance is by no means constant. It is extremely difficult to discover before the end of the third month; but it is rarely absent at the end of the fourth month, and continues to increase in intensity until the end of the sixth month. From this period it varies in its nature rather than in its intensity.
7. It is found most often in the lateral portions of the uterus, a short distance above the crural arches; but it is sometimes heard along the median line.
8. It is of no consequence in the diagnosis of cases of double pregnancy, of diseases of the uterus or placenta, or of the life or death of the fœtus.

II.—THE PULSATIONS OF THE FŒTAL HEART.

The double-pulsations, or the pulsations of the fœtal heart, are by far the more important of the two sounds discoverable by obstetrical auscultation. Since Mayor, of Geneva, who first recognised the presence of a double pulsation, when the ear is applied to the abdomen of a pregnant woman, and who assigned as its cause, the contraction of the fœtal heart, all observers who have since studied this phenomenon, under the different names of the fœtal pulsation, the beating of the fœtal heart, the redoubled pulsations, *cum multis aliis*, have coincided in assuming the same cause as its discoverer. Indeed, it would be difficult to assign any other; for the heart of the infant just born furnishes the same characters.

These double-pulsations then are a pathognomonic sign of pregnancy: for they can occur in no other condition than pregnancy, nor can they be produced by anything else than the contractions of the fœtal heart. We have seen that the uterine souffle may occur in certain diseased conditions of the uterus; but not so with the double pulsations. These can occur only in pregnancy. These pulsations are composed of two distinct sounds, separated by a very short interval. The first is stronger and more resonant than the second, which, though sometimes very weak, yet never entirely disappears.

If the perception of the contractions of the fœtal heart, constitutes proof the most undeniable of the existence and life of the fœtus, it becomes of the last importance to be able to determine at what period of gestation they may for the first time be heard. It is, however, impossible to fix upon a period that will be true in every case. The different changes and developments which take place in the ovum from the moment of conception until the end of gestation, are not sufficiently uniform in all cases, to allow of certain calculations on this point; and farther, it is in most cases extremely difficult, if not absolutely impossible, to determine the exact time when conception has taken place.

The majority of observers seem to agree that, in the plurality of cases, it is extremely difficult to hear the pulsations of the fœtal heart, before the conclusion of the first half of pregnancy. They have, however, been heard at the expiration of sixteen weeks, by others at the end of fourteen weeks, and by others again at twelve weeks.

Dr. Depaul ausculted two women who were able to tell the precise date at which cohabitation and conception had taken place. Both of them were pregnant three and a half months, and in both were the pulsations of the fœtal heart distinctly heard. In thirty-six cases, which had reached the end of the fourth month, these pulsations were distinctly heard in twenty-five. In seven, they failed on account of the death of the fœtus; in two others, on account of the unusual thickness of the abdominal parietes; and in the remaining two, in consequence of the extreme agitation of the women.

In those cases which have reached or passed the fifth month of gestation, and in which there are no extraordinary circumstances to prevent, such as the death of the fœtus, an unusual thickness of the abdominal parietes, or extreme agitation on the part of the women, it is, with a very few exceptions, both possible and easy to detect the double pulsations. Of 307 cases, which had reached this term, these pulsations were easily perceived in 281; in twenty-one cases, they failed on account of the death of the fœtus; in two others, their absence was attributable to a large collection of serum in the cavity of the peritoneum; and in the remaining three cases, it was impossible to explain their absence. Hence, in the whole group of 307, they failed only in three, without a satisfactory reason; and in 179 other females, who were in the last three months of pregnancy, the double pulsations were absent but once.

It should be here remarked, that the number of the double pulsations has not been found to correspond in all cases. Observations were made on this point in 600 cases; and it was found that the highest number was 180 a minute, and the lowest ninety. These, however, are the two extremes, and rarely, very rarely, will a fœtal heart be found beating either as high as 180 or as low as ninety. Should we meet a case in which these pulsations descend to ninety, we may be assured that it is a case of extreme danger to the fœtus, either from compression of the umbilical cord, from premature detachment of the placenta, or from some other cause, which, will probably result in its death. The average number of beats of the fœtal heart has been found to bo about 135. They continue to increase in intensity from the moment when first heard until parturition; but the number of beats does not seem to vary as gestation advances. M. Bouilland, however, asserts, as the result of his experience, that the less advanced the pregnancy, the greater the number of beats.

Like the uterine soufle, the double pulsations are subject to changes; but, for the most part, they are merely momentary, and seldom of long duration. These changes and irregularities are most obviously perceived when the uterus is in a state of contraction, during parturition.

We might here examine the question, whether the impressions on the mother, or the variations in the maternal circulation, have any influence on that of her child. Almost all obstetric auscultators have agreed that the derangements of the maternal circulation have no effect on that of the fœtus. This has been satisfactorily established by numerous observations which have been made in those various pathological conditions in which the circulation of the mother is very materially affected. In fainting, for example, when the pulse of the mother is entirely gone, the pulsations of the fœtal heart are as calm and as regular as when the woman is in perfect health. In acute diseases, where the maternal pulse beats as high as 140 a minute, that of the fœtus retains its usual number. It is thus possible that the two pulses may coincide; but we may, notwithstanding, always distinguish them, as there will be a point on the uterus, where the double pulsations will be the loudest, while the beating of the mother's heart increases in intensity as we approach it.

It is important to determine the exact value of the alterations which may occur to the double pulsations of the fœtal heart, especially as regards their increase and decrease in number. The increase on the number of these sounds seems to be of little importance, since it rarely happens, and does not seem to denote any peculiar ill-condition of the fœtus. But when these sounds materially decrease in number or intensity, we hold, as it were, a true scale of the child's life. Attention to the diminution of these sounds is especially important in cases of severe and protracted labor; for, by this diminution, danger to the child is indicated, and it is a sign to which the accoucheur should always pay prompt attention. Death to the child has again and again resulted from a labor too long protracted. How many, alas! of these lives might have been saved, had there only been some indications to use those means of aid our art affords! It would be surely a painful occupation for any practitioner to be called to the bedside of a woman, in the commencement of what was doomed to be a tedious and protracted labor,—to hear the pulsations of the fœtal heart, regular in number and force, indicating full life and health,—and as the hours rolled on without the completion of the labor, to listen to the steady diminution of those beatings; and when, at last, unaided nature ends the labor, and the physician sees before him a mother almost exhausted and a dead child,—a child, whose life might have been saved by timely interposition,—this, I say, would not be a pleasant occupation. And yet how often has this very result happened; and all from the want of some certain information that the child was in immediate danger. But this information, happily, can now, in a majority of cases, be afforded by auscultation.

This application of auscultation has, in many cases, been the means of detecting the existence of more than one child in the cavity of the uterus; and that, too, when nothing but auscultation could, in the least degree, lead one to suppose that such was the case. Indeed, without these means, it is almost impossible to foretell, with certainty, the existence of a double pregnancy, even after the membranes are ruptured and the water discharged. It seems, however, in order to diagnose with accuracy the presence of twins, that the woman should be near her full term. It need hardly be said that such a diagnosis is formed from hearing the beating of two distinct fœtal hearts; and between these two hearts, a difference of from eight to fifteen beats a minute will almost always be found. It will be readily understood how important such knowledge is to the practitioner, since it not only gains him credit for having made an accurate diagnosis, but also enables him to provide for what is often an unexpected occurrence. Positive opinions on this point ought, however, to be given with caution, since double pregnancy may exist, and the practitioner, from fortuitous circumstances, be prevented from hearing the pulsations of the hearts; but, where these two pulsations are heard, and especially if they differ in number, he may be assured of the presence of twins.

Is obstetrical auscultation of any value in detecting cases of extra-uterine gestation? Should we be called to a case in which there exists a tumor in the inferior part of the abdominal cavity, whose appearance had coincided with the disappearance of the menses in a female who is usually perfectly regular, and if on touching we should find the uterus small and empty, there would be good reason for supposing it to be a case of extra-uterine pregnancy; but if, in addition to these signs, the pulsations of the fœtal heart are distinguished, there is no longer any room for doubt, and it is the presence of this sign alone, that can make such a diagnosis a certain one.

III.—DIAGNOSIS OF PRESENTATIONS AND POSITIONS.

We come now to consider one of the most important applications of obstetrical auscultation, viz., its application to the discovery of the presentation of the fœtus, and of its precise position, even before the labor has commenced. The utility of such knowledge will hardly be denied; and it only remains to show that, in the majority of cases, such knowledge can be afforded by the stethoscope. It need hardly be said that the uterine souffle is of no value in furnishing this knowledge; but that it is the study of the double pulsations only that can give the desired information.

The point where the fœtal pulsations originate, is, without dispute, the fœtal heart; and, therefore, the nearer we approach this centre, the louder will these pulsations be heard. It is also undeniable that some parts of the thorax of the fœtus transmit sound better than others; and hence, that portion of the uterus which coincides with those points of the thorax of the fœtus, which best transmit sound, will be the point where these pulsations are most clearly heard.

If the heart of an infant just born be ausculted, the pulsations will be best heard in front and exactly in the præcordial region. The next loudest point is directly behind and in the same region. As the dilatations of the lungs and the noise of the air entering them unite to diminish the intensity of the beats, it follow that the further we remove from the point where the heart is situated, the fainter grow the sounds.

These statements, while they are undeniable when applied to the infant recently born, may be subject to modifications when applied to the fœtus in utero. The presence of a very great quantity of amniotic fluid may so dull the sound in front, that the pulsations behind may exceed in intensity those in front. It is, therefore, necessary to have some standard to which to refer each individual case; and the one naturally suggested, is the position which we find in the plurality of cases to exist. This position is as follows: The spinal column strongly flexed, representing a curve with the extremities more or less approaching, the convex part of which curve coincides closely with the corresponding concave surface of the uterus; but the concave or internal part of the curve is separated from the sides of the uterus by the different members of the body bent one upon another, with the spaces filled by the amniotic fluid, often in great quantity. It must, therefore, follow that it is through the back of the fœtus that the pulsations of the fœtal heart are likely to be the most intense, and the density of the lungs, while yet there has been no air in them, favors the transmission of sound.

If what has thus far been said be admitted, it is evident that the point where the double pulsations are loudest heard, corresponds with the dorsal portion of the fœtus, and we are, consequently, able to tell in what portion of the uterus the back of the child is situated; and from this knowledge we may obtain the relative situation of the other portions of the fœtus.

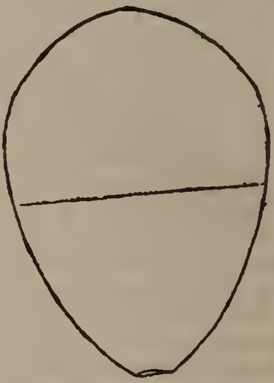
Before investigating this question, however, it is necessary to remark, that the diagnosis of the presentation by auscultation, if we desire an accurate one, should be made only when the woman is near her full term. It is evident that an accurate opinion cannot be given in the early months of pregnancy, on account of the small size and mobility of the child. At seven months, the motions and changes have become less frequent; but they still do sometimes occur at this period, and even later occasionally. Dr. Depaul cites the following case:

He ausculted a woman, who was eight and a half months pregnant, diagnosing a case of pelvic presentation. He then practised the touching; and as the neck of the uterus was relaxed, and sufficiently dilatable to admit the introduction of a finger, he thus discovered the two feet. This confirmed his previous diagnosis. He made known the result to the *sage-femme* of the hospital, who, it seems, had touched the same woman a short time previously, and discovered a presentation of the head. She immediately touched again, and this time found the feet presenting. Some days after, and just before the accouchment of this same woman, Dr. Depaul again ausculted and diagnosed a presentation of the head; and in a day or two labor came on, and the child was born in the first position of the vertex. In this case, then, admitting all the diagnoses to have been correct, there was first a presentation of the head, afterwards a presentation of the feet, and again one of the head; and consequently there were two complete versions, spontaneous and without the aid of the contractions of the uterus. This case is detailed to show that, notwithstanding uncommon, changes in the presentation may occur as late as eight and a half months, or even later.

Having established the fact, that for the fœtus in utero, the point where the double pulsations are loudest heard, corresponds with the dorsal portion and on a level with the heart, we will now return to the proposition, to deduce from this knowledge the presentation, and in many cases the precise position of the fœtus before labor has commenced. And, first, as regards the *presentation:*

The heart in its natural position is placed much nearer the superior than the inferior extremity of the vertebral column; and consequently the pulsations will be discovered nearer its superior than the inferior extremity. If then the pelvic extremity of the child should present at the superior strait, the cephalic extremity will occupy the superior portion of the uterus, and hence it will be in this portion of the uterus that the double pulsations will be most audible.

If, on the other hand, it is the head of the child which presents at the superior strait, the pelvis of the child will be the most elevated portion of the trunk; and the pulsations of the fœtal heart will consequently be heard with greatest intensity in the inferior portion of the uterus. In this case, the pulsations decrease in force from below upward; while in the former case, they decrease from above downward. It is, therefore, proposed, in each individual case, to draw an ideal horizontal line, dividing the uterus into two equal parts, as here delineated; and thus all the cases in which the pulsations of the fœtal heart are heard with greatest intensity *above* this ideal line, will be cases of pelvic presentations, and all the cases in which the pulsations are heard *below* this line, will be cases of cephalic presentations.



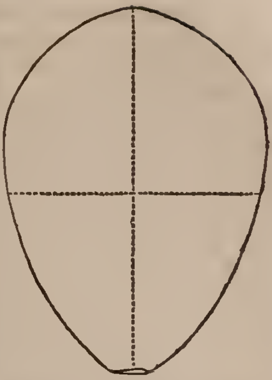
Thus far it has been supposed that the membranes are not ruptured, and that the presenting extremity of the fœtus is on a level with the superior strait. It must not be forgotten, however, that sometimes during the eighth month, and always in the commencement of labor, the presenting extremity of the fœtus is engaged at the superior strait; and this circumstance should always be considered in forming our diagnosis; but the allowance necessary to be made is very slight.

It is obvious that in cases of face presentations, which are merely a variety of head presentations, depending upon the flexion of the head, obstetrical auscultation furnishes no knowledge; for, whether the presentation be one of the vertex or of the face, all other things being equal, the heart will be heard precisely in the same place.

Thus far has auscultation been applied to the discovery of the presentation; and it now remains to point out its value in diagnosing the position.

By means of the horizontal line just mentioned, we are enabled to tell whether the cephalic or pelvic extremity of the child presents; and hence it follows, (keeping in view the fact, already shown, that the fœtal pulsations are heard most audibly at the point which corresponds to the dorsal region of the child,) that if these pulsations are heard on the right side of the uterus, it is against the right wall of the uterus that the back of the child is lodged; while, if these pulsations, on the other hand, are heard on the left side, it is equally obvious that the child is placed against the left wall of the uterus.

We must, therefore, draw a vertical line following the linea alba, perpendicular to and crossing the horizontal line before mentioned; and thus we will have the uterus divided into four quarters,—two superior and two inferior, as is here represented.



Now, suppose the contractions of the fœtal heart are heard most distinctly in the left inferior quarter, it must necessarily be a case of head presentation, because the beatings are heard *below* the horizontal line; and as they are heard on the left side of the perpendicular line, it is on that side of the uterus that the back of the child lies. If the double pulsations are heard with greatest force in the right inferior quarter, it is again a presentation of the head, with the back on the right side. If they are most audible in the left superior quarter, the pelvis, because the pulsations are above the horizontal line, must present, with the back on the left side. If they are heard in the right superior quarter, it is again a presentation of the pelvis with the back on the right side.

But here arises a seeming difficulty in making an accurate diagnosis; for granting that it is always possible to tell whether the presentation be one of the head or pelvis, and whether the back of the child lies on the right or left side of the uterus, it may not, at first view, appear so easy to determine, in any given case, what is the precise position of the child. For instance, if the fœtal pulsations are heard in the left inferior quarter of the uterus, it is a case of cephalic presentation, and the back of the child is on the left side; but here it is necessary to determine still farther, whether it is a case of first position with the vertex to the left acetabulum, or of the fifth position with the vertex to the left sacro-iliac symphysis,—a difficulty which is enhanced by the circumstance that, in both these cases, the pulsations would be heard in the left inferior quarter. To diagnose these cases, it must be recollected that, as in a case of first position, both the head and trunk of the child are thrown more forward than in the fifth position, it follows that the pulsations would be heard near the linea alba; while in the fifth position, they would be more posterior, or farther from the linea alba.

The same remarks apply to a second or vertex-right position, as distinguished from a fourth, or a vertex to the right sacro-iliac symphysis. In the former, the pulsations would be heard in the right inferior quarter, but near the linea alba; while in the latter, they would be heard in the same quarter, but farther removed. It must be borne in mind that the farther from the linea alba the stethescope is applied, the more difficult it is, in consequence of the presence of the intestines, to discover the pulsations. On the supposition that the trunk of the child is advancing, can we tell in which iliac fossa its head lies? The pulsations will be heard in the left inferior quarter, in the left cephalo-iliac position of the right or left shoulder; and in the right inferior quarter, if the reverse be the case As these presentations, however, occur very rarely, it will be more difficult to diagnose such cases by auscultation than any others.

In practising obstetrical auscultation, the woman should be placed in a recumbent posture, the legs and thighs flexed so as to relax the abdominal muscles. With regard to the question, whether the ear or stethescope should be preferred in ausculting, almost all authors agree in giving a decided preference to the latter; and not without good reason. If the ear is applied to the abdomen, the side of the head covers so much space, and there are so many points which serve as conductors of sound, that often, instead of hearing one sound alone, there is heard a mixture of the uterine soufle, the double pulsations, and the beating of the mother's heart; but with the stethescope, the sounds which are produced in the small space which the instrument covers, alone are heard. Again, in cases in which the abdominal parietes are very thick, or there is need of ausculting in the sides or back, sufficient pressure cannot be made with the ear. Lastly, (and this alone is a sufficient reason for the employment of an instrument,) many patients would object to the practitioner's putting his ear to the abdomen, while they would have no objection to the employment of an instrument.

To become skilful and adept in this form of diagnosis, much practice and observation are necessary; and those who wish to investigate this subject, should avail themselves of every opportunity offered them for studying these phenomena. In every case of labor, even if it be somewhat advanced, auscultation should be employed. The patient's consent to the examination can usually be obtained, if she can be persuaded that any knowledge can thereby be gained that will assist in advancing her labor. It is, however, in cases which the practitioner is permitted to examine once or oftener during the progress of gestation, and then again just as labor commences, that are of most service in making him skilful in diagnosis. If, in such a case, just as the labor is commencing, and before anything is revealed by the touch, he makes a diagnosis which the event proves to have been a true one, it will do much to gain him a reputation as a skilful obstetrician.

These double pulsations cannot well be confounded with any other sound discoverable by auscultation. They can be readily distinguished either from the uterine souffle, or the beating of large arteries; for with these they do not correspond in point of number; nor can they be mistaken for the movements of the fœtus, as these are merely momentary.

There are two other sounds which are sometimes met with in obstetric auscultation. The one is the sound occasioned by the movements of the fœtus, which is very inconstant and varies in intensity. When the fœtal pulsations are difficult to discover, these sounds are important, as proving the existence of life in the fœtus. The other sound is the souffle in the umbilical cord. This souffle, if at all heard, is discovered in the middle region of the abdomen, in the commencement of labor. It seems to be heard most often in those cases in which the cord is wound around the neck of the child, and the soufle increases in intensity during the uterine contractions.

CONCLUSIONS.

The foregoing observations on the nature and value of the pulsations of the fœtal heart, seem to establish the following propositions:

1. These pulsations are a certain sign of the existence of pregnancy and of life in the fœtus.

2. The impressions upon, and the variations in, the circulation of the mother, have no effect on that of the child.

3. The *increase* in the number of the double pulsations is of little consequence, since it rarely happens and is usually of short duration. On the other hand, a *decrease* in the number, during parturition, and especially in a protracted labor, announces danger to the child, and indicates that the labor should be terminated by instruments, by version, or such other means as the case may demand.

4. We should not expect to discover these pulsations before the completion of the first half of pregnancy. The average number of beats is 135 a minute, and they continue to increase in intensity from the moment when first heard until parturition.

5. Cases of double pregnancy may be diagnosed from hearing the pulsations of two distinct fœtal hearts, and these pulsations usually differ in number from 8 to 15.

6. The detection of these beatings is of the first importance in cases of extra-uterine pregnancy, since, if they were not discovered, the case might be mistaken for a fibrous tumor of the ovaries or a simple cyst, and be treated as such.

7. They are discovered at a point corresponding with the dorsal præcordial region of the fœtus.

8. To discover the presentation, we have to draw an imaginary *horizontal* line, dividing the uterus into two equal parts. When the head presents, the pulsations are heard in the inferior half; and when the pelvis presents, they are heard in the superior half.

9. To discover the position, we have to draw an ideal *perpendicular* line, bisecting the preceding one. When the back of the child is turned towards the right side, the pulsations are heard in the right half; and when turned to the left, they will be heard in the left half.

Lastly, the entire absence of these pulsations should invariably deter us from performing the Cæsarean operation, or from making a division of the symphysis pubis; in a word, from doing anything which might prove injurious to the mother, in the vain hope of aiding the child, which we are now bound to believe to be no longer alive.

ART. V.—*The Physiological Effects of Highly-condensed Air upon the Human Body.* By W. DETMOLD, M.D.

As ours is the age in which the collateral sciences of natural philosophy and chemistry, in their rapid advance, have thrown much light upon hitherto unexplained points of physiology, all facts leading toward that object should be gathered and generalized. We will, therefore, give an extract from an article, which we met with in the Archives for Mineralogy, Geology, and Mining, edited by Dr. Karsten.* He describes a most ingenious and scientific operation in mining, where one element is made use of to resist another, and where human skill comes out victorious from the contest of the two elements.

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* Archiv für Mineralogie, Geognosie, Bergbau, und Hüttenkunde. Herausgegeben von Dr. C. J. B. Karsten und Dr. H. V. Dechen. XVI Band, 2tes. Heft. Berlin: 1842. The article in question is translated from the French, and taken from the Comptes rendues hebdomadaires desséances. du 2. Novembre, 1841.

The contrivance is to keep out the influx of water from a mining shaft by means of condensed air; but however ingenious and scientific this may be, it is foreign to this journal; and we will, therefore, limit ourselves to a short description, sufficient for our readers to understand the process. The part which interests us is the effect of the condensed air upon animal life, that is, the effect produced upon the miners who are at work in the condensed atmosphere. The account itself, as well as the journal in which we found it, is devoted to geology and mining; and hence, as the physiological facts are as foreign to them as mining is to us, we find a short notice only of the effects of the condensed air upon the workmen; and the explanatory reasoning on those effects, we have ourselves added.

From Doué, in the Department of Maine and Loire, to Niort, in the Department of the Nether Loire, extends a large bed of bituminous coal, known to geologists, which is covered by a layer of alluvial soil about sixty feet deep. (eighteen to twenty metres). This alluvial soil consists of strata of clay and floating sand, the latter being in direct communication with the waters of the Loire itself. The difficulty of penetrating this layer of alluvial soil, and of keeping back the floating sand, which would press into the mining shaft with the weight of the waters of the Loire, with which, as just observed, it is in direct communication, had hitherto been considered as insurmountable; and, consequently, the valuable bed of bituminous coal remained inaccessible and unavailable, until M. Triger, in connection with M. de Las Cases, proposed to force the water back by means of condensed air. To accomplish this object, they adopted the following plan:

A cylinder of sheet-iron about seventy feet long, (twenty metres,) and about three and a-half feet (1.033 metre) in diameter, was forced through the sand till it reached the bed of coal. The upper end of this large cylinder is closed by a box, with two valves large enough for a man to pass through; and this contrivance is for the purpose of letting the workmen pass in and out, without allowing the condensed air to escape. The rest of the apparatus consists of air-pumps, which are steadily worked by a steam-engine. By means of the air-pumps, the sheet-iron cylinder and the shaft, which latter commences where the former terminates, are filled with condensed air, which is always kept equal to a pressure of three atmospheres, or equal to forty-four and a-quarter pounds to the square inch, which presses the water back, and keeps cylinder and shaft dry.

Without entering farther into the details of the apparatus or its operation, we think we have said enough for our readers to form some idea of both. Suffice it to add, that the practical results fully answered the expectations, and that the success was complete.

We now come to that part which interests us most, viz., the effect of the condensed air upon the workmen and miners exposed to it; and we regret that this part of the account is as meagre in the eyes of the physiologist, as probably our description of the apparatus would be unsatisfactory to a civil engineer or a miner; for, as we said before, the facts are briefly stated, and we have added the explanatory reasoning without presuming, however, that ours is the only mode of explanation. Others may find a different, and, perhaps, a better theory.

The first phenomenon which was observed when the men entered into the condensed air, was a more or less severe pain in the ears. This pain commences immediately on entering into the compressed atmosphere, and ceases as soon as an equilibrium is established between the condensed air and the air which is contained in the interior of the ear. This explanation appears the more probable, as the pain was easily removed by the act of deglutition. In some of the workmen, this pain in the ears was so slight as to be hardly perceptible, while in others it was very intense. With others, again, it did not exist at all in entering into the condensed air, while it became very severe on leaving it, and getting out into the open atmosphere; the latter case was, however, of rare occurrence. A certain bodily disposition seemed to exert some influence upon the degree of pain which the men experienced, as the same person would one day feel it only very slightly, while at other times, apparently under the same circumstances, the same person would suffer intensely. Besides, the fact was established, that the pain would be lessened in proportion as the transition from the open air into the condensed, and from the condensed into the open air, was slower and more gradual.

Another singular observation which the workmen made was, that nobody was able to whistle in condensed air under a pressure of three atmospheres; but until the condensation reached that point, viz., the pressure of three atmospheres, the men were enabled to whistle. This phenomenon we explain in the following manner: In whistling, we force a stream of air through a small aperture of the lips; and this fluid, in thus passing through this small aperture, becomes condensed, and produces the sound; but under a pressure of three atmospheres, the air is already so condensed that the ordinary effort, which the muscles of the cheeks and lips and the respiratory muscles are accustomed to make for the purpose of whistling, is not sufficient to compress the air any farther; and consequently there arises an inability to whistle. The account we have does not mention anything on the subject, but we suppose there would be a similar difficulty in expelling air *per anum*.

Another fact observed is, that in this condensed air, *every body speaks through the nose.* The following theory may explain this fact: The common expression, to speak through the nose, is a misnomer, being like *lucus a non lucendo;* for the sound becomes nasal, (we speak through the nose,) when, in articulation, the air and sound do *not* pass freely through the nose. Now, as the animal heat in the interior of the nose probably rarifies the air a little on its passage through that cavity, the surrounding air is slightly more condensed than that within the nose; and the pressure from the outside is consequently stronger in proportion to the rarification of the air within the nose. The slightest pressure on the nose is, indeed, sufficient to give to the voice a nasal sound, which we easily perceive by merely laying a finger gently on each side of the nose. On the other hand, it is also possible that this phenomenon is produced, not by the action of the condensed air on the speaker, but on the hearer.

Though we might be led to anticipate some decided effects upon respiration from the exposure of the lungs to this condensed air, the account does not mention any change produced in respiration, except one phenomenon, which we should have least expected, namely, that the workmen, in ascending the shaft filled with condensed air, did not lose their breath, or did not become short of breath, to the same degree as when making a similar ascent in the free air. The only explanation we can suggest of this fact is as follows: As the same given volume of condensed air of course contains a greater quantity of oxygen than the same volume of uncondensed air, it follows that the lungs require, in proportion to the condensation, a smaller volume of air to effect the oxydation and decarbonisation of the blood; and that they consequently do not require to be extended as much as if they were breathing uncompressed air, nor need the action of the respiratory muscles be as energetic.

May not this fact, if carefully investigated and fully established, warrant the practical application of condensed air as a remedial agent in certain diseases; for instance, in some kinds of asthma, or some affections of the lungs, in which these organs have become partly impermeable to the air, or even in morbus cœruleus? Even if we could not expect to cure those diseases by the breathing of condensed air, yet it might be a means of prolonging life. A small volume of condensed air would introduce a sufficient quantity of oxygen to be mingled with the blood, without the objectionable excitement produced by the inspiration of an uncondensed air, which contains a greater and an artificial proportion of oxygen. We are fully aware that a merely speculative idea, thrown out in this way, is open to a great many formidable objections; and it would carry us far beyond our limits to enter here into a discussion *pro* or *contra* on this subject; but if we mistake not, some years ago a physician in Paris had an apparatus arranged for applying condensed air as a remedial agent, though we do not at present recollect where or whether we ever have seen a satisfactory account of his experiments, nor do we recollect the name of the physician.

The last and most remarkable fact which we find stated in the account before us, among the effects produced by the condensed air upon the workmen, is the following: One of the miners, a man by the name of Floc, who had been deaf since the siege of Antwerp, always heard better in the condensed air than any of the other miners who were not deaf. We regret that we only find this brief statement of the bare fact, without mentioning anything of the nature or cause of the man's deafness, precluding thus any conclusions at which we or our readers might have arrived. It might be that the cause of the deafness was an obstruction of the Eustachian tubes from thickening of the lining membrane, which was temporarily removed by the pressure of the condensed air. But why then should he hear better than any of his companions, who were not deaf, for the comparison which is made seems to imply that the hearing of those who were not deaf became imperfect in condensed air? It must, therefore, have been a cause which, while it affected a sound ear, temporarily restored a diseased organ. May not condensed air act as a stimulus upon the organ of the ear, which, while it is too powerful for a sound ear, excites to action an organ perhaps partially paralyzed, which requires an artificial stimulus,—a result analogous to the fact, that a person suffering from nervous deafness hears better in a noisy place; as, for instance, when riding in a carriage? Or does condensation alter the sound-conducting property of the air? Are the vibrations of condensed air more intense or less so than those of the air when under no pressure?

The account farther mentions some interesting observations belonging to the province of natural philosophy; as, for instance, the increased rapidity of combustion, which, under a pressure of three atmospheres, increased so that they had to abandon the ordinary candles with cotton wicks, which, burning out in less than a quarter of an hour, made so intolerable a smoke that they had to exchange them for candles with linen wicks, which lasted longer and did not smoke so much. We find, besides, some interesting observations with regard to the temperature of condensed air, and also as to the artificial formation of fog. We will, however, not go beyond our province; but in conclusion we cannot refrain from adding, that in the session of the Academy of Science of Paris, of November 8th, 1841, Dr. Poisenille mentioned some experiments which he had made on the effect of high atmospheric pressure upon animal life. Having exposed salamanders and frogs to a high pressure, he found that it produced no change in the capillary circulation, even when the pressure was equal to seven atmospheres. He observed the same upon some mammalia: having exposed mice and young rats for a whole hour to a pressure of seven atmospheres, or one hundred and three and a quarter pounds to the square inch, he observed that they moved about and fed as usual, as soon as they came out of the pressure into the open air.

ART. VI.—*Medical Statistics of the United States Frigate Potomac, Commodore John Downes, Commander, during a three years' voyage of Circumnavigation of the Globe.* By J. M. FOLTZ, Esq., Surgeon U. S. Navy.

THE United States Frigate Potomac, 44, bearing the pennant of Commodore John Downes, with a complement of five hundred men, performed a voyage of circumnavigation of the globe, during a cruise of three years. During this period she traversed ninety-seven degrees of latitude, that is, from 40° N. to 57° S., crossing the equator six times. A period of nearly two years was passed between the tropics; and it may be here added, as not a little singular, that while three months were spent within 6° of the equator in the East Indies, where a malignant dysentery made its appearance on board, the same period, subsequently, was passed in the same latitudes at the direct antipodes, in the vicinity of the Gallapagos Islands, where, from the absence, no doubt, of marshes, rank vegetation, and consequently of malaria, (notwithstanding these causes are not considered by many essential to the production of malarial diseases,) the crew enjoyed the average health of our own latitudes.

A concise statistical account of the health of the crew, with a brief notice of the character of the diseases developed in the different climates traversed, as well as those resulting from the confinement of so large a body of men on board ship, may not be uninteresting to the profession, as well as to the general inquirer. These, together with some brief observations upon the medical topography of the most important ports visited, are here presented from our notes and journal made during three years of active service and privations at sea, in the hope that they may prove interesting to some comfortably-seated fireside-traveller at home.

In entering upon the details of this voyage, we would bespeak the patient indulgence of the reader, confident that the general deductions, at least, will be interesting to the physician, the philanthropist, and the political economist.

We reported for duty on board the Potomac on the 22d of May, 1831, at which time two hundred and fourteen of her crew were on board. On the day of joining, twenty-four were upon the sick report, consisting of slight cases of indisposition usually encountered among new recruits. On the 3d of June, the ship hauled off from the navy-yard at Washington, to Greenleaf Point, (a distance of two miles,) into deep water; and here her armament and stores were received on board. Throughout the day the crew, exposed to a very hot sun, labored hard and drank freely of the river water alongside. During the night and the following day, many, in consequence, doubtless, to a great extent, of the impurities of the water drunk, were seized with cholera morbus, accompanied with violent spasms, which, in several robust young men, required copious venesection; but the disease readily yielded to treatment. As the ship was immediately after watered and no more cases occurred, its relation with the river-water seems the more obvious. The sick list was increased from twenty-two to thirty-six in one day, in consequence, no doubt, of this indulgence in the use of the river-water.

On the 15th of June we left Washington for Hampton Roads, where we arrived on the 22d. The change from a fresh water river to the waters of the bay, materially improved the health of the crew, several cases of vernal intermittents having been speedily cured. The sick list, for the number of men on board, continued large, having a daily average of twenty-three during the twenty-four days that we remained at Norfolk; and this high ratio was kept up by the new drafts of men, who came on board after the most violent debauchery and dissipation. A very valuable seaman, who had been appointed boatswain, visited the shore on the 4th of July, to congratulate himself upon the receipt of his warrant; and after three days' absence, he was brought on board laboring under mania a potu and hæmoptysis, which proved fatal on the third day after his return.

On July 16th, we sailed for New York, with three hundred and fifty of the crew on board; and in five days we anchored off the battery, in the harbor of that city. The full complement of the officers and crew having been here made up, and all the supplies furnished, the Potomac sailed, on the 24th of August, 1831, with five hundred and two souls on board. All were in apparent good health, excepting one officer, affected with tracheal phthisis, whose case will be noticed in the sequel. The average age of the crew, as near as could be ascertained, was thirty-one years.

In our passage toward the equator, we did not encounter the north-east trade winds, those of a variable kind and light airs having prevailed until we reached the third degree of north latitude; and here we met the south-east trades, which continued, with uniform regularity and force, until our arrival at Rio de Janeiro. After passing the Cape de Verd islands, our course for eight days was parallel with the coast of Africa, distant four hundred miles; and here we encountered the most violent rains, accompanied with thunder and lightning, a high temperature, and thick, sultry, disagreeable weather. Several cases of remitting fever presented themselves in these latitudes, but they did not assume a violent form. On the 6th of October we crossed the equator; the thermometer was 79°, with fresh trade winds, and cloudy weather; and twenty-eight were on the sick report. The passage from New York to Rio was made in fifty-three days; and during this time, the mean elevation of the thermometer at noon was 76°. Twelve cases of fever occurred, and ten were treated for injuries. Of the younger part of the crew, who had not been to sea previously, many suffered much from the confinement on board ship and the change of diet; and several obstinate cases of sea-sickness continued throughout the passage.

During our stay of twenty days in the harbor of Rio, the crew were freely supplied with fresh provisions, and were permitted to indulge without restraint in the delicious tropical fruits, which were very abundant. The mean of the thermometer at noon was 76°, that of the barometer 29.70 in., and the daily proportion on the sick report was seventeen.

The harbor of Rio is in 22°30′ south latitude, just within the tropic of Capricorn. It is equally unrivalled for its extent, its numerous deep bays, and its incomparable scenery; and notwithstanding its intertropical location, it is exempt from malignant diseases, the yellow fever being there unknown. It also escaped the ravages of that dreadful scourge, the cholera epidemica. The inhabitants, however, far from enjoying vigorous health, are of a bilious temperament, feeble, and short-lived. Cutaneous diseases prevail to a great extent, and the streets are crowded with beggars suffering from leprosy and elephantiasis. Ships of war that remain a long period in this port usually have large sick lists, consisting, in a majority of cases, of diseases of the alimentary canal. Chronic diarrhœa is here very insidious in its invasion, and often terminates in incurable ulcerations. The rainy season is the most healthy, but ships' crews cannot be too carefully sheltered by awnings from the sun and rain; and they should carefully abstain from the unripe fruit, which is brought off in great quantities by the bomb-boats.

Having sailed on the 5th of November for the Cape of Good Hope, we anchored in Table Bay on the 6th of December, after a passage of thirty-one days. The passage was boisterous, with much rain and thick foggy weather; the easting was made between the 32° and 34° of south latitude, strong westerly winds prevailing; and the thermometer averaged near 60° at noon throughout the passage. Forty were admitted with dysentery and diarrhœa on the passage; and of these most occurred immediately after leaving port, and required treatment until our arrival at the Cape. The average number on the sick report during the passage, was twenty-one. The cold and wet weather induced a return of intermittent fever in twelve, who had had previous attacks; but the disease readily yielded, after our reaching Table Bay, where intermittents are of rare occurrence.

The mean annual temperature at the Cape of Good Hope is about 68°, and the climate appears to be very favorable to health, in both natives and foreigners. Instances of longevity are numerous in the various races of men met with here, among whom are the Caffres, Hottentots, African Dutch-boors, and the English residents. The bills of mortality exhibit all the variety of disease to be met with in the same latitude north, while the violent and fatal diseases of warm climates are unknown. Invalids from British India often resort to this place for the restoration of health, many of whom, as we were informed, derive much benefit from the change.

In 1833, according to the British army statistics, the deaths were only six hundred and eighty-one out of a population of thirty-one thousand one hundred and sixty-seven, being one in forty-six, while in England, according to the last census, the proportion was one in forty-seven and one-half. When it is considered that among the deaths at Cape Town, many were invalids who arrived there in the last stage of disease, and moreover that in some of the neighboring districts, the mortality for 1833 was only one in sixty-seven, which is a lower ratio than in the healthiest counties of England, it is obvious that, so far as regards the resident population, the climate is certainly not less favorable to the constitution than that of Britain. Among the British troops serving here, nearly two-thirds of the admissions into hospital are of that description which seldom prove fatal. Of the more serious diseases, the following is the order of their prevalence:—those of the stomach and bowels, those of the lungs, fevers, rheumatic affections. Intermittent and remittent fevers are extremely rare, they being, it is said, entirely unknown among the native inhabitants. In pulmonary affections, the climate is regarded as decidedly favorable.

Southeast winds prevail here, and frequently blow with great violence; and when this occurs, they are accompanied with a remarkable phenomenon, viz.: a small stationary cloud, which hangs over Table Bay, in the midst of the most violent tempest. Table Mountain and the white sandy beach of the bay, form the section of an amphitheatre, upon which an African sun glows with intense ardor; and from this heated surface, a highly rarified air ascends, until it attains the elevation of Table Mountain, when it comes in contact with the south-east winds, surcharged with humidity in their long passage over the Indian Ocean; and as the dew-point is thus suddenly reached, the cloud in question is formed; but, as it gradually attains the temperature of the surrounding atmosphere, the humidity is again absorbed, so that there is a constant generation and destruction, in the midst of a tempest, of this remarkable stationary cloud. While the Potomac remained, the mean temperature at noon was 78°.

On the 12th of December we sailed from Table Bay. Immediately after doubling the Cape we encountered a violent gale from the west; and a rough sea, and cold, wet weather, with westerly winds, continued until we made the island of St. Paul's. Several cases of pleuritis occurred, and many suffered from catarrh and rheumatism up to this period.

From the Island of St. Paul's, our course was northeast to Quallah-Battoo on the west coast of Sumatra, where this ship had been ordered to redress a piracy and murder, committed upon the ship Friendship of Boston. The crew were formed into division, and exercised whenever the weather would permit, in the use of fire-arms and the cutlass, to prepare them for the landing among these piratical and treacherous Malays; and such was the excitement upon the subject, and the anxiety of all to participate in the affair, that the sick report was smaller during the passage of fifty-one days, than at any other period of the cruise. The daily proportion sick was ten; and upon our arrival at Quallah-Battoo, but three were unable to attend to duty, out of a crew of more than five hundred. The equator was crossed on the 27th of January, the thermometer being at 76°, with steady fresh south-east trade-winds; and on the 5th of February, we anchored off Quallah-Battoo.

On the morning of the 6th, the attack was made upon the town, dismantling and destroying three forts, by which we had eleven wounded and two killed. In one of the wounded, the ball traversed the right lung, entering on the right of the sternum, at the sixth rib, and passed out under the scapula, having carried with it pieces of his belt, cloth jacket, and shirt. The hæmorrhage from the lungs was relieved by copious venesection on the spot where he fell. He continued to improve slowly; and after the foreign substances mentioned above were discharged by means of an abscess in the right side, he recovered with a collapse of the lung. Nearly all the wounds were severe, and several were dangerous; but from the comfortable quarters on the gun-deck of the frigate, and the uniform temperature of the atmosphere, they all recovered with unusual rapidity. We remained twelve days, during which time the thermometer stood at 85°, at meridian of each day, with alternate land and sea breezes. The severe exertions of the crew at the time of the attack on shore, and the necessary subsequent labor and exposure in watering the ship, after a long period of light duty, produced a material change in the health of the crew; and this was promoted by the absence of excitement which had for a time prevailed among all, and perhaps also by causes of a climatic nature. The sick list of three, in one month, increased to fifty-seven. Fifty-two cases of disease of the bowels and twelve of bilious fever, were treated within the month, notwithstanding fresh meat and vegetables were daily served to all hands, and every precaution was used to protect the men from the sun.

We have here a confirmation of an extraordinary fact, recorded in the "Statistical Report on the Sickness and Mortality of the Army of the United States," embracing the period from 1819 to 1839 :—

"It is, indeed, a remarkable fact in the medical history of fleets and armies, that, during the active progress of warlike operations, troops are little subject to the influence of disease. It seems as though the excitement of the passions has the power of steeling the system against the agency of morbific causes. On the contrary, as soon as the excitement is withdrawn, by a cessation of operations and a return to the monotony of a garrison, the constitution manifests the consequences of recent fatigue and exposure."

The Malays in this vicinity, which is in 4° north latitude, are healthy and robust, compared with their Asiatic and Javanese neighbors. They are very temperate in their habits, use but little animal food, and, like all Mahomedans, bathe frequently. Our numerous merchant vessels which have for years visited this coast, engaged in the pepper trade, enjoy comparative health, and apprehend but little danger when on the coast of Sumatra; while the shores of Java and Borneo, on the contrary, are shunned as we do a pest-house.

The topographical configuration of the west coast of Sumatra will readily account for its salubrity. Bold hills and spurs of mountains extend down to the sea; and although nature here revels in perpetual verdure, and there is a constant decay of vegetable matter, yet there are no fens and marshes, the mountain streams being precipitated with rapidity to the sea. Mount Ophir of Solomon is directly inland from this port, being distinctly visible whenever the atmosphere is free from clouds. We met with many of the natives who had suffered recently from small pox; and goitre was very common among them,—a disease which here at least cannot be attributed to snow-water as the exciting cause, for snow never falls even upon the mountains. On the 16th of February, we sailed from the west coast of Sumatra, and crossed the equator on the 20th, with the thermometer at 85°. On the 25th, the sick list was again reduced to thirty, no new cases of diarrhæa having been admitted since leaving port; and the wounded were all doing well.

On the 28th, we anchored in Bantam Bay, on the northwestern extremity of Java, just within the Straits of Sunda. A change was here made in the ration by order of Commodore Downes, which contributed materially to the preservation of the health of the ship's company. Portions of the beef, pork, and beans, which constitute the navy ration, were discontinued, and rice and curry served out in lieu of them. The spirit ration was divided into three portions, one of which was given in the morning, one at noon, and the other in the evening. All hands were ordered to wear flannel; and they were daily inspected at quarters by the officers, to see that the order was complied with. At Bantam Bay, we remained twelve days, wooding and watering ship; and during this period, the mean temperature at noon was 82°, with the regular land and sea-breezes, and several showers every day. Fifteen cases of dysentery and four cases of fever, were admitted upon the report, with a daily average of twenty-nine sick during our stay.

On the 19th of March, we arrived at Batavia; and with a hope to preserve the crew in good health, we anchored four miles from the shore. This port has been more fatal to navigators than any other on the globe. The largest and most valuable Indiamen have often here been laid up for want of hands to navigate them, and here entire ships' crews have found their graves. It was in this port that Dr. James Johnson encountered the malignant fever which committed such dreadful ravages in the English squadron in 1806, and which forms the basis of his invaluable work upon the diseases of tropical climates. As we were consequently not without the most dreadful forebodings, we adopted every precautionary means of prevention that had heretofore been found useful. Awnings were spread over the ship day and night, —native Javanese boats' crews were employed to do the necessary boat-duties of the ship,—the men were carefully sheltered from the sun; in a word, all unnecessary duty was avoided. Those officers who visited the shores, spent as little time as possible in the city. They went directly into the country, where a purer atmosphere prevails, and they strictly observed the most rigid temperance.

To Dr. Johnson we were much indebted for many valuable hints on prevention; and after the occurrence of disease, we were enabled at once to pursue a course of treatment, with the result of which we had much occasion to be highly gratified. Indeed, to him we acknowledge professional obligations, which it will ever be out of our power to repay.

There was but little variation in the temperature during our stay at Batavia, and the regular return of the land and sea breeze prevented the heat from becoming oppressive; the mean at noon was 82°. When the land breeze first reached us in the evening, it was charged with the most offensive effluvia from the fens and marshes, which stretch along the shores; and although anchored four miles from the land, this noxious atmosphere was so oppressive, that all on board complained much of it. This malaria doubtless brings with it the seeds of the diseases from which strangers suffer so much.

The city is situated in 6° of south latitude, and is intersected by dykes and canals, to which the Dutch settlers are so partial, and which materially contributed to its insalubrity. The walls which formerly surrounded the town were removed, when in possession of Great Britain, by Sir Stamford Raffles; and the city, at the same time, was extended to the higher and more healthy grounds beyond, where at present the foreign merchants and residents are congregated. The governor and Dutch troops are stationed in the interior, where the climate is less noxious to strangers; but a few years' residence in Java is sure to be followed by physical and mental enervation.

Notwithstanding our precautions, the number of sick daily increased, those reporting themselves sick suffering from a severe form of dysentery accompanied with much inflammation, tormina, and tenesmus. In several cases, the disease assumed a most malignant character from the commencement; and in one case, a robust, vigorous, young man, it terminated fatally within twenty-four hours from the time of its accession. Copious blood-letting, local and general, was ordered in the commencement, and emetics administered to counteract the great tendency to visceral congestion, and to restore a healthy action to the deranged functions of the skin and liver. Mercurials in combination with opium and ipecacuanha were regularly administered, and frequently with the most favorable results; and in conjunction with this, mercurial inunctions were used, to accelerate the action of the mercury; and when ptyalism occurred, the patient in almost every instance was relieved, notwithstanding it did not in every case prevent a fatal termination. When this course of treatment did not arrest the progress of the disease within a few days, bloody fœtid evacuations followed, with gangrene, collapse, and death.

On the 10th of April, in consequence of the increase of sickness, we sailed from Batavia with forty-two cases of dysentery on board. On the 20th, we crossed the equator, the thermometer being at 90°, and the sick report increasing. On the 21st, at meridian, at anchor one mile north of the equator, the weather calm, and the thermometer at 85°, fifty cases of dysentery were on the report, and new cases occurring daily. Chloride of lime was used freely about the cots and hammocks of the sick, and every possible attention was paid to cleanliness. On the 1st of May, three deaths occurred within the preceding twenty-four hours; but the number of cases was reduced to thirty-four, and no new ones had appeared within several days. Since leaving port the thermometer averaged 84°, with calm and light airs. After being at sea twenty days, we had sailed but six hundred miles, with a vertical sun, being, indeed, almost directly under the equator. On the previous night, we experienced the most tremendous thunder, lightning, and rain, without wind; and on the following morning, we had a light breeze which continued until our arrival at Canton, after a passage of thirty-nine days. From this time, the health of the crew continued to improve. One hundred and fifty cases of dysentery were registered within a few weeks, among which there occurred but thirteen deaths,—a proportion truly small, when compared with the number of fatal cases on board other ships in the China seas.

The Potomac remained at the Island of Lintin for nineteen days; the mean temperature at noon was 80°, with a fresh sea breeze which thoroughly ventilated the ship. The average number on the sick report was twenty-six, three-fourths of whom had chronic dysentery, and six suffered from bilious fever. The Lintin fleet, which remains at anchor here for many months at a time, usually enjoys good health; but dysentery and fever, during some seasons, prove very fatal. Although the native Chinese appear to suffer but little from the epidemic diseases, yet they are but a feeble and enervated race. We were informed by a resident American surgeon, that he had frequently met with cases among the natives, in which fractures would not unite; and ulcerations are also extremely difficult to heal, in consequence of this debilitated state of the vital powers.

Ships going to the East Indies cannot be too careful in enforcing the regulations adopted on board the Potomac; for, we were thereby enabled to carry a larger number of men in safety through those seas, than had probably ever before been accomplished. The less animal food consumed, the better; and the entire abolition of the spirituous portion of the ration, would, we are satisfied, be also attended with much benefit in these excessively hot climes.

We sailed for the Sandwich Islands on the 5th of June, with thick heavy weather and a fresh breeze. On the ninth, during a typhon, with the thermometer at 80°, there were two deaths from chronic dysentery. The easting was made between the 34th and 36th degrees of north latitude, with strong westerly winds and cool wet weather, which completely changed the character of the diseases on board. Pleuritis, intermittents, and inflammatory affections, took the place of dysentery; but they were not of an aggravated character. Twenty-five was the average on the sick report for the passage.

We arrived at Oahu, Sandwich Islands, on the 23d July, after a passage of forty-eight days; and here we remained for twenty-three days. During this period, the mean of the thermometer at noon was at 78°, and that of the barometer 29.90 in. The crew were here granted liberty—"a run on shore,"—which was much enjoyed; and it was followed by a much smaller increase in the number of sick, than generally ensues from liberty in a port which has greater facilities for dissipation and intemperance. On the day of entering the port, seventeen were under medical treatment, and at the time of sailing, twenty-two, which is a very small number in view of the largeness of the crew.

The Sandwich Islands are situated in 20° north latitude. The climate appears peculiarly favorable to the human constitution; for the natives are extremely large and corpulent, and such as are accustomed to labor, are possessed of great strength. This tendency to corpulency is much encouraged, particularly in females, in whom it is considered the greatest evidence of beauty; and to this result, their native food, the *aurum maculatum*, or wake robin, is said to contribute in an especial manner. This plant, which is cultivated with care, contains a large portion of fecula, from which they manufacture starch, made into *poye*, which, eaten with *raw fish*, is considered one of their greatest luxuries. The natives suffer much from a species of leprosy, which they call the *craw-craws;* and to cure which, they undergo a course of treatment with the *kavaroot*,—a powerful alterative and narcotic. Upon the arrival of the missionaries, infanticide was of very frequent occurrence. To effect this purpose, they used a drastic, purgative, indigenous bean, which not unfrequently destroyed the mother, and seldom failed to produce abortion; but this horrid practice, through the salutary influence of the missionaries, has been in a great measure discontinued.

We sailed for the Society Islands on the 15th of August, and crossed the equator on the 5th of September, in 5° west longitude, with the thermometer at 80°, and the south-east trades. At this time there were twenty-four on the sick report. Twelve cases of intermittent fever were admitted during the passage; and many of those laboring under dysentery continued to suffer upon our approach to the equator, from chronic diarrhœa. A few degrees north of the equator we met with calms and heavy rains, with the thermometer ranging above 80°, when these cases of relapse occurred. On the twenty-eighth day we anchored at the Island of Otaheite, having an average of twenty-seven under treatment for the time at sea. At this island the crew were much on shore, wooding and watering ship, the tropical fruits were procured in the greatest abundance, and no unpleasant consequences resulted from their use. We lost one of the crew while in this port, from concealed strangulated hernia. This island, which is in latitude 16° south, consists in its interior of high volcanic mountain land, surrounded by a fertile belt of rich alluvial deposit near the shores. The climate is truly delightful, and all the wants of the natives are supplied by the spontaneous productions of nature. The natives have not so great a stature as those of the Sandwich Islands; but they are more gay and cheerful in their character, and many of the females are delicate and graceful. A light complexion is much esteemed among them, to improve which they avoid the sun, and bathe themselves with the juice of the *papa*, which is an indigenous plant. Their diet consists of fresh vegetables, fruit, and fish, of which the bread-fruit constitutes the principal; and as all the tropical fruits are here produced spontaneously, labor is unnecessary, and their lives are consequently inactive and indolent. The Missionaries who remain some time in the Society Islands, seldom escape an attack of elephantiasis. We met with two who suffered from this disease in a most aggravated form. The natives also suffer much from this affliction.

The passage between Otaheite and Valparaiso in Chili was made in the vicinity of the thirty-fifth degree of south latitude; and as it was in the winter of the southern hemisphere, much colder weather was encountered than we had previously met with, accompanied with rain, wind, and a rough sea. The ship was exceedingly uncomfortable, and the change of weather once more completely revolutionized the type of disease. Fifteen cases of pneumonia and pleuritis, with twenty-two cases of rheumatism, were admitted upon the sick report. Milder forms of catarrh and inflamed tonsils were numerous, and the general liability of the crew to indisposition, upon exposure and bad weather, indicated that all began to suffer from the long period passed at sea. After a passage of thirty-four days, we arrived at Valparaiso, having had an average of thirty-six patients, who required careful treatment during the voyage. Besides, many had been excused from duty, from time to time, in consequence of slight indisposition, but who were not placed on the sick report. Among the number sick on this passage were two cases of scurvy, which did not manifest themselves until we came under the influence of the land air. The first few days in port aggravated the disease, but as the symptoms were mild, the patients speedily recovered; and these were the only cases of scurvy which presented themselves during the cruise. The Potomac arrived at Valparaiso, which is in the same longitude with New York, on the twenty-fourth of October, 1832, having been fourteen months from the United States, nearly twelve of which had been passed at sea.

Soon after arriving, liberty was given to the crew, which, as usual, for a few days, more than doubled the number on the sick report. Eleven were treated for mania a potu, and many contracted syphilis. We remained forty days in port, during which time the crew were freely supplied with fresh provisions, and were allowed relaxation after a long period of active service at sea. The mean of the thermometer at noon was 66° and that of the barometer 29.75 in. This is here the season of spring; high winds prevail from the south, without rain. The number sick averaged nearly forty for each day in port, a majority of them suffering from the effects of the cruise on shore, and the consequent dissipation.

Valparaiso, which is in 33° south latitude, is surrounded by spurs of the Andes, which run down in bold bluffs to the sea. The climate is one of the most salubrious in the world; and to the early Spanish conquerors, who reached it after their invasion of Mexico and Peru, where they suffered much from the intense heat and arid soil, this port was so enchanting that it received the name of the "vale of Paradise." Santiago, the capital of Chili, is ninety miles inland, at the foot of the Cordillera, with a population of nearly fifty thousand. The capital is remarkable for sudden vicissitudes of temperature, the days being very hot, while the nights are cold. This is occasioned by the snow-clad mountains near the city, the cold atmosphere from their summits descending into the highly rarefied atmosphere of the plains below. Remittent and intermittent fevers are very common, as well as rheumatism, and the whole class of phlegmasiæ, which invariably result from extremes of heat and cold. Goitre is frequently met with, every individual in some families being affected with it,—a disease which the natives, as in Switzerland, attribute to the use of the snow-water from the mountains, which supplies the town; but this explanation would surely be laughed at by the patients affected similarly, that we saw in the island of Sumatra. The various preparations of iodine have been found very efficacious in its treatment. While at Santiago we heard of a case of extirpation of the thyroid gland, which resulted in the death of the patient.

On the second of December we sailed for Lima, with the usual south wind, and arrived at Callao on the fifteenth, the sick report having been reduced to eighteen. We remained in this port for seventy-five days, during which period the ship's hold was broken out, and every part thoroughly cleaned and painted. The weather was uniformly clear, with a most delightful south wind; here it never rains, and at this season, mists and fogs are equally unknown; the mean of the thermometer at noon was 70°, and that of the barometer 29.85 in., with a daily proportion of twenty-four upon the sick report. Four cases of remitting fever were treated; there was but little arterial excitement, with much disturbance of the nervous system, and it was found that they would not bear the use of the lancet.

The city of Lima, which is in 12° south latitude, is eight miles from the bay. The inhabitants, although much enervated by the continued high temperature, and their dissipated and indolent lives, leading to premature old age, yet enjoy good, if not robust, health. Although foreigners suffer less from acute diseases than in India, yet they are insidiously worn down by the climate, notwithstanding the most extreme temperance and regularity in living. The streets of Lima are kept very clean, many having streams of water running through them; and to this must be added, as an additional cause of their exemption from malignant disease, the remarkable property of the atmosphere in producing dry putrefaction, which thus prevents all noxious effluvia. Dead animals are suffered to remain in the roads; and the Pantheon, in which all the dead of the city are interred, notwithstanding open to the air, never emits the least disagreeable effluvia. This property of the atmosphere arises from the large quantity of nitrate of soda diffused through it, from the soil, and which in situations that have not been disturbed for a long period, may be found deposited in small crystals. The long chain of the Andes, which forms the immense barrier along the entire western coast of South America, with an elevation of from twelve to eighteen thousand feet, completely interrupts the progress of the winds from the east, the only direction from which they blow along the coast of Peru, being from the south; and as these south winds are much colder than the air they encounter in their progress towards the equator, and as their capacity for humidity consequently continues to increase, it follows that rain cannot form. Rain is consequently unknown in these countries; but as the winds reach the Isthmus of Darien, the air becomes surcharged with moisture, which is there precipitated in torrents.

Our ships of war pass much time in this port, with generally a large sick report. Dysentery sometimes prevails to a great extent, and during the months of July and August, when fogs prevail, those predisposed to tubercular phthisis are liable to have the disease developed. We here lost one of the crew from consumption; and an officer from the U. S. Ship Falmouth, who was seized with hæmoptysis, was transferred to the Potomac, in the hope that a change to Valparaiso would be of service; but the case terminated fatally soon after our return to Chili.

On the twenty-eighth of February, 1833, we sailed for Valparaiso, which we reached in sixteen days, after a cold, wet, and boisterous passage; the mean of the thermometer was 64°, and the average number on the sick list was twenty-three. We remained in port sixty-seven days, during the months of March, April, and May, (these being the autumn months in Chili), with much colder weather than at the time of our previous visit. In May we had two severe northers, which, as the harbor is open to the north, are dangerous; and both were accompanied with rain. These northers, which are always indicated by the barometer, only occur at this season. The average on the sick report during our stay, was twenty-one; and this number was kept up in consequence of the liberty given to the crew on shore. Several cases of pleuritis, rheumatism, and inguinal adenitis, occurred in consequence of the exposure and the wet ship. At Lima, cases of chronic diarrhœa presented themselves, which were relieved soon after a change to a cooler climate.

On the twenty-fifth of April, a case of small-pox occurred in one of the servants, who contracted the disease on shore. As soon as the character of the affection was ascertained, the patient was transferred to an hospital on shore, to prevent its extension. Within a few days, another case made its appearance, and this was followed by a third, all of whom were sent on shore. On the first of May, during a norther, he thermometer fell to 40°, there being now a large sick list, composed chiefly of inflammatory affections. During our stay, fourteen were upon the report with scrofulous affections, twenty-two with pulmonary and hepatic inflammation, and sixteen with rheumatism. Four weeks having elapsed since the appearance of the last case of variola, it was thought that the disease had disappeared, and we consequently, on the twenty-second of May, sailed for Coquimbo, which we reached in three days; but on the eleventh of June other cases of variola presented themselves, which placed beyond a doubt the fact that the contagion was on board ship,and that it would inevitably extend throughout the entire ship's company. It was now determined to inoculate the whole ship's company, as we would thereby materially diminish the severity of the disease, and accelerate its progress throughout the ship; for, as long as it continued on board, we were subject to a most irksome quarantine. On the twentieth, all hands were called to muster; and beginning with the officers, every individual who was not marked with the small-pox was inoculated with lymph taken from a well-developed case on board. The number inoculated was two hundred and eighty-seven, all of whom had their grog stopped, and were daily furnished with fresh provisions. At this time the general health of the crew was very good, having an average of but eighteen on the report, exclusive of those suffering from small-pox.

Eighty-five of those inoculated took the disease, many of them having it in a very mild form. When there was a tendency to inflammation, or the febrile action ran high, venesection was ordered with small and repeated doses of the sulphas magnesiæ. The solution of supertart. potassæ was given as a common drink, and a low diet prescribed. In eleven cases, the eruption extended over the body; but in no case did it become confluent, nor was it accompanied by any unfavorable symptoms. The febrile excitement was most severe on the eleventh day after inoculation, from which time it gradually subsided. Thirteen of the crew were without any evidence of previous vaccination, all of whom took the disease from inoculation; and the eighty-five who became effected in this way, were consequently all susceptible to its influence.

While here in quarantine from small-pox, the American whale-ship "Corinthian," entered the port with this disease on board. There were three cases, two of which terminated fatally soon after her arrival. The remainder, twenty-seven, we inoculated, eleven of whom took the infection and recovered in proper time, without any unfavorable event. Of the three who took the disease in the natural way, two died, while eleven with the disease by inoculation, all recovered,—a result which presents strong testimony in favor of inoculation.

Coquimbo is very healthy, and it has a remarkable uniformity of temperature throughout the year. The city, eight miles from the landing, was called, by the old Spaniards, from the serenity of its atmosphere, La Serena, and it was selected, for the same reason, by the proprietors of the silver and copper mines, as their residence. To this purity of the atmosphere and uniformity of temperature, together with the careful inoculation of all on board, may be attributed the good fortune of not losing a man out of so large a crew, from this terrible disease. Tho average on the report, exclusive of the cases of variola, was nineteen; the thermometer averaged 69°, and the barometer 29.80 in. There had been no rain at Coquimbo for three years previous to our arrival, but while there we had several showers.

The cases of small-pox had so far improved by the eighth of July, that the Commodore was enabled to put to sea, with the usual south wind, which in eight days carried us to Callao. On the twenty-second of August we sailed from Callao, having passed thirty-five days in port; and during this time, the thermometer at noon averaged 71°, the barometer 29.77 in., and the daily ratio of the crew under medical treatment was twenty-eight.

This period is here the midst of the season of fogs and mist, when the atmosphere is continually obscured; and now is the time when the prevailing diseases of dysentery, fevers, and pulmonary affections, are rife. Several of the crew were down with remitting fever, which was insidious in its approach, accompanied with great prostration and a small and frequent pulse. Dr. Ruschenberger, the surgeon of the Falmouth, who had seen much of this disease on this coast, found the best treatment to consist in mild saline diaphoreties and regimen. Many of the crew suffered from an enlargement of the inguinal glands, which appears peculiar to the coast of South America, and in which suppuration, notwithstanding every care and attention, will follow. These cases of adenitis are unconnected with syphilis, and are extremely difficult of treatment on board ship. In three days we anchored at Payta; and here, although so short a distance from Callao, where we had recently been enveloped in fogs and mists, we found the atmosphere perfectly serene, with but little difference in the thermometer between day and night.

After a short stay, we sailed for the Gallapagos Islands; and on the first of September we anchored in Essex Bay, Charles Island, 1° 13′ south latitude. This entire group of islands is of recent volcanic origin, one or more cones of craters being found on every one; and as regards soil, little has as yet accumulated to sustain the scanty vegetation. Until recently these islands have been uninhabited, the one at which we were anchored having a few people. The crew were much on shore, collecting the immense terrapins, for which these islands are celebrated; and notwithstanding the great labor of carrying these large animals over the broken lava, under a vertical sun, they remained in good health. It was in this port that Commodore Porter recruited his men, and procured fresh provisions during his cruise in the Essex in the last war. American whale-ships resort much to these islands for the same purpose, an additional inducement being found in the circumstance that the sailors are here unable to procure ardent spirits, and there is no danger of desertion. During the ten days that we remained in port, the mean of the thermometer was 73°, that of the barometer 29.90 in., and the average on the sick report, including several cases of dysentery, was twenty-one. All those here attacked with dysentery, had suffered from the same disease when at Batavia, the antipodes from our present position.

From the Gallapagos Islands we proceeded to Guayaquil, anchoring on the eighth day, at Puna, at the mouth of the river, in 2° south latitude. The crew were much predisposed to disease of the intestinal canal, particularly those who had previously suffered in the East. The number of cases of dysentery continued to increase, with acute inflammatory symptoms, tormina and bloody evacuations; but the disease did not assume that malignant type, nor was it so difficult of treatment as that of Batavia. Among thirty-eight cases of dysentery and diarrhœa treated since our arrival in the vicinity of the equator, but two terminated fatally. Within the month, when in the same latitudes, eight cases of chronic hepatitis came upon the sick report, which yielded to mercurial alteratives, and the nitro-muriatic acid administered internally and by baths. While at Puna, the average on the report was thirty-two, a majority of whom were seriously unwell, and required much careful attention. Guayaquil is at all times very unhealthy, particularly during the rainy season, which continues several months. The quantity of rain that falls is very great; but as we could not ascertain that any rain-gauge had been kept, we are unable to give the quantity.

On the 28th of September we sailed for Payta, which was reached in three days, having now twenty-eight upon the sick report. A few days in this truly delightful atmosphere again reduced the number of sick to fifteen, which consisted of the convalescents with dysentery and diarrhœa. The climate of this port is one of the most salubrious on the coast of Peru, it being remarkable for uniformity of temperature, dryness of the atmosphere, and the regularity of the winds. The mean annual temperature is about 72°, and the mean of the barometer is 29.90 in.; and here the dense fogs of Lima, and the heavy rains of Guayaquil, are equally unknown. Payta is the port of Piura, a city with a population of four thousand, twenty miles inland on the Colon river. This river passes through marshes filled with the *sarsaparilla*, from which the waters are imputed to imbibe medicinal virtues, which, together with the salubrity of the atmosphere, makes this place the resort of invalids from the neighboring country. The sarsaparilla forms an important article of exportation.

The cruising grounds for the American ships employed in the sperm whale fisheries are directly off this port; andthey frequently resort here for supplies, particularly for fruits and vegetables, as antiscorbutics, for which, in their long cruises, they are much in need. At the head of the list of antiscorbutics, among the whalers, stand raw potatoes; two are served out daily to each man, and eaten raw with vinegar, which, after a long confinement to salt provisions, are much relished by all hands. Those only who have been much at sea can know the longings for, and the luxury of, fresh vegetables of any description.

October 10th, we sailed for Lambayeque, where we touched on the 16th, and proceeded thence to Callao, which we reached on the 27th of the month. In our progress south the thermometer fell, and we again encountered the fogs and mists, which, for a time, we had left behind. At the period of our arrival, the sick report was increased to forty, the mean of the thermometer at noon, for the passage, being 62°. We remained twenty-seven days at Callao, the thermometer having a mean of 69°, and the barometer of 29.65 in., with an average of thirty upon the sick report, including several cases of scrofulous glandular affections, which are here found to be very obstinate.

On the 21st of November, we sailed from Callao, having at different periods of the cruise, spent one hundred and twenty-seven days in this port. The average number under treatment was larger here than at Valparaiso, consisting of cases of disease of the intestinal canal, and the obstinate cases of adenitis to which we have already alluded. In a few cases, where constant rest could be maintained, the use of the pediluvium and evaporating lotions, would effect a resolution; but these cases were rare; suppuration usually ensued, when for weeks and months we had to contend with indolent ulcers. The average number sick in this port during our visits at various seasons, was thirty-two.

The Limaians, the descendants of the Spanish conquerors, are rapidly decreasing, and promise, in their continued revolutions, soon to become extinct. They have uniformly lived in great luxury, as the proprietors of the valuable gold and silver mines; and for generations, they have been devoted to gambling and dissipation, which have rendered the present race short-lived and feeble. They are diminutive in stature, slight in form, and many of the females, when young, are exceedingly beautiful; but from the premature development of a warm climate,—a law which recent investigations show to have been much exaggerated,—they often become mothers at an early period, and consequently rapidly decline into premature old age. The native Peruvians, who at this time constitute seven-eighths of the population of the country, are short, with very large chests, and broad Chinese features; they are fond of agricultural pursuits; and as they were originally conquered by a mere handful of Spaniards, they still permit themselves to be governed by the same.

We would here respectfully, as a traveller, insert our protest against the declaration of our learned and distinguished countryman, Dr. S. G. Morton, who, in his elaborate volume upon the Crania of America, speaks thus:—"The concurrent testimony of all travellers goes to prove, that the native Americans are possessed of certain physical traits that serve to identify them in all localities, the most remote from each other, nor do they, as a general rule, assimilate less in their moral character and usages." In craniological formation, as well as in his moral character and usages, the Peruvian differs widely from his warlike and intellectual neighbor of North America. The physiognomy is entirely different, possessing but little intelligence, and being totally devoid of the noble intellectual expression of our northern Indians. Temple, who passed years among them, says that they resemble the Tartar or Chinese; and Burrow, who has written so ably upon their country, expresses his conviction of their descent from the Chinese; and as regards the native Mexicans, many of the most accurate observers, —as for instance, in the recent able work of Madame Calderon de la Barca,—advance the same opinion respecting their origin. Between this nation and the Peruvian, there is a close approximation in physical formation; and as regards habits and character, they are found precisely to correspond. The phrenological organization of the native Peruvian indicates but little intellectual development, while at the same time their animal propensities are also diminutive; and these indications are strongly corroborated by their habits and character. When left to themselves, unlike our northern Indians, they diligently cultivate their fields, live amicably with each other, and are hospitable and friendly. The striking analogy among the four hundred dialects of America, it is true, strongly confirms the opinion of a common origin, pertaining to all the American tribes; and all the differences found to obtain among them, may possibly be due entirely to the agency of climate and other causes. But these differences, physical, moral, and intellectual, are certainly much more strongly marked than the language of Morton, just quoted, would at all justify.

We arrived at Valparaiso in twenty-five days, having encountered calms and adverse winds, with an average of twenty-six under treatment, for the passage. Off the island of Juan Fernandez we encountered a gale, with the thermometer at 50°, which brought on several cases of pneumonia and pleuritis. Six cases of hepatitis were treated at sea; and as we approached the coast, the cold air from the snow-clad Andes brought on catarrhs and colds, from which few escaped. A few days in port restored the crew to health, as the weather at this season is dry and temperate.

We remained fifty-three days in Valparaiso, with an average of eighteen on the sick list, a majority being cases of slight injuries; but there were several cases of bilious fever, which did not, however, present any important features. A quarter gunner, one of the most athletic and valuable men in the ship, lost his life from a fall on shore, causing a fracture of one of the lumber vertebræ, and one case of phthisis pulmonalis terminated fatally.

At this season, (the summer,) dysentery and fevers prevail among the natives on shore, and acute cases of hepatitis also manifest themselves during the warm weather. We were called in consultation in a case of hepatitis in a Mr. Blanco, a gentleman who, educated at West Point, promised much usefulness in this new country; but several previous attacks had much enfeebled him, and suppuration taking place in the liver, he died within a short time after our first visit. The total number of days passed at Valparaiso at our different visits was one hundred and sixty, with a uniformly small sick list, notwithstanding the crew were allowed to go on shore frequently during each visit,—an immunity from disease which must be due to their incomparable climate.

The native Chilanoes are a robust and vigorous race, frequently attaining a great age. Accustomed from youth to the open air, with much active exercise, particularly on horseback, they are capable of enduring great fatigue; and nowhere are men met with, who are possessed of more iron constitutions than the inhabitants of these mountains. An inflammatory fever prevails during the autumn, in the interior, attended with much cerebral congestion, which sometimes assumes the form of a fatal epidemic. By the natives it is thought to be contagious, who give it the name of *chavolungo*, for which they administer an infusion of an indigenous plant, the *conchelagua*, a powerful diaphoretic. The condition of the medical profession, in both Chili and Peru, is very low, there being no schools of medicine. The native practitioners are from the lower orders of life, ignorant and uneducated, and commanding but little respect. In the large cities, a few foreign medical men are to be found, but their practice is limited to foreigners and a few of the most affluent of the natives, the prejudices of the lower classes being much against them.

On the 9th of February, we sailed for the United States; and we encountered head winds until we reached the fiftieth degree of south latitude, the thermometer falling as we advanced south, with much rain. On the 6th of March we were off Cape Horn, in 57° south, with the thermometer at 44°, and the barometer at 29.80 in., and thirty-six being upon the sick report. The character of the diseases on board had entirely changed since our departure from Valparaiso. Cases of pleuritis, cynanche tonsilaris, and rheumatism, augmented the sick report; and very many of the crew were very unwell, but unwilling to go upon the sick list, as long as they were able to keep about on our passage home. After doubling Cape Horn, fresh and favorable winds continued until our arrival at Rio de Janeiro, on the twenty-third of March. The average on the report of sick for the passage, was thirty-three, three-fourths of whom suffered from inflammatory affections, produced by the cold weather off the cape; and a proportion daily of as many more were prescribed for, who still continued to perform their duty.

We remained sixteen days in Rio. Although this was the rainy season, with frequent showers during the day, yet the quantity of rain which fell was very small. The mean of the thermometer was 78°, that of the barometer 29.78 in., with twenty-one on the sick report.

After leaving Rio, a number of cases of diarrhœa were admitted for treatment, being no doubt the result of the heat and rain to which the men had been exposed in watering ship and bringing off the supplies. On the 27th of April we crossed the equator with the thermometer at 82°, with southeast trades, and twenty-seven on the sick report. We reached Boston on the twenty-third of May, after a passage of forty-four days, having had a daily average of twenty-eight sick. Upon our arrival in the United States, the health of the crew was such as to enable all but six to take their discharge. Of these, two had phthisis, one, a fracture of the leg, and the remaining three, chronic rheumatism; all of whom were transferred to the naval hospital.

Having thus concluded the statistical details of this voyage, which, it is to be feared, have proved somewhat tedious, the deductions that follow cannot, however, but be regarded as of the highest interest and importance.

The Potomac had been in commission for more than three years, during which period the total number of deaths had been twenty-five, viz:

Dysentery,	16
Phthisis,	3
Hepatitis,	1
Concealed Hernia,	1
Hydrocephalus,	1
Fractured vertebræ,	1
Shot at Quallah Battoo,	2
Total,	25

Seven of the ship's company, including two of the junior officers, had been returned to the United States as invalids.

The average number of souls on board for three years was four hundred and ninety, including thirty commissioned and warrant officers. The annual ratio of deaths was therefore 2.08 per cent., which is much less than in the same number of adults on shore. It should be remembered, however, that at the time of sailing we were all in excellent health. The daily average of the number on the sick report for three years, was twenty-eight, which is surely a very small number out of a crew of five hundred, who had gone through the East Indies, and crossed the equator six times. Moreover, this was the first cruise of this ship, when, in consequence of the large quantities of salt used in their construction for the preservation of the timber, crews often suffer much from the humidity occasioned by the salt, which does not exist in her subsequent service. The United States Frigate Brandywine was very sickly on her first two cruises, which was attributed to her being freely salted,—an inference strengthened by the fact that since then her crews have enjoyed good health.

This frigate, as an experiment in our marine, had her galley on the berth-deck, where it was thought that the heat from the fires would assist in the ventilation of the ship, at the same time that she would be kept dry between decks. There were unquestionably constant currents of air down the hatches and windsails toward the fire, at the same time that the highly rarefied air from below ascended; but this was more than counteracted by the suffocating heat of the large fires on the confined and crowded berth-deck, while the water constantly and necessarily in use in cooking, kept the lower deck wet. Besides, when the galley is placed there, cleanliness cannot be so well preserved, as when it is on the upper deck.

During the voyage of circumnavigation, the Potomac sailed over sixty-one thousand miles, having been at sea five hundred and fourteen days. She crossed the equator six times, varying from 40° north, to 57° south latitude; and in all this service, she had not a spar carried away, nor did she lose a man by any accident on board,—the strongest testimony of the excellent state of discipline, and the prudence and precaution of her commander.

In the cheerful and contented condition of the crew, with constant employment, can be traced the health of the whole ship's company; and to this end, theatrical entertainments, a weekly newspaper when at sea, and a relaxation from the severe military discipline during the long passage across the Indian and Pacific Oceans, as well as the judicious medical police enforced on board while in the most insalubrious ports on the globe,—all materially contributed. About one-third of the crew had the spirituous portion of the ration stopped for the cruise; but as that number embraced the boys and landsmen, who had never been at sea, they were more frequently on the sick list than the old seamen who drank their grog. The recent reduction in the quantity of grog, as well as the change in the ration, is probably the most important step yet taken toward the reformation and improvement of the character of the seamen and of the whole navy.

When we compare the health of the crew of the Potomac with that of early circumnavigators, the increased health of ships' companies at sea will be found truly surprising. Lord Anson sailed from England with eight vessels and one thousand nine hundred and eighty souls; and out of these, only a single ship's company, the Centurion, performed her voyage of circumnavigation. The early Spanish and Dutch navigators were equally unfortunate, and whole crews perished from the scurvy,—a disease which has been almost exterminated in modern days.

The great improvements in marine police, first adopted by Captain Cook during his voyages of discovery, among which was the introduction of the hammock for all on board, have benefited navigators as much as his geographical discoveries; but his vessels were small, which are always more healthy than large ones; his crews, at the same time, were in a constant state of excitement, anxiously looking forward toward the discoveries which they were constantly making; and they were also satisfied that they would receive a handsome reward and a warm reception, upon their return home. These precautions, in conjunction with cheerfulness and cleanliness, constitute the only good prophylactics on board ship.

One word more in regard to scorbutus. This horrible disease may be said to have been the universal scourge of the sea until the year 1795, when the British admiralty issued an order for furnishing the navy with a regular supply of lemon-juice, from which time the extinction of this horrid disease in that arm of the service may be dated. The destructive ravages of this disorder are awfully portrayed in the narratives of the early English navigators, particularly in those of Sir Francis Drake, Davis, and Cavendish. Lord Anson, in the course of his voyage around the world, lost more than four-fifths of his men; and it is mentioned by Sir Richard Hawkins, that within his own naval experience, he had known more than ten thousand men perishing by the scurvy. Prior to the year 1796, more sailors, it is believed, fell victims to this terrific scourge, than to the united consequences of naval warfare and the various accidents incidental to a maritime life. These results, compared with the medical statistics of the Potomac's circumnavigation of the globe, we deem alone of sufficient importance in their deductions, to reward us for our present labor.

Art. VII.—*Case of complete Imperforation of the Vagina, relieved by a Surgical Operation.* By James Kennedy, M. D., of New York.

On the sixth of January last, Mr. — called upon me, requesting a professional visit to his wife, to whom he had been married a few days previously, but with whom he had been unable to consummate the matrimonial rites. On visiting the lady, I learned from her the following particulars: She was thirty-one years of age,—was born in Bath, in the State of Maine, of healthy parents, and until the age of twelve years, enjoyed good health. At this period she began to suffer from headache, pain in the back, loins, and lower part of the abdomen; in a word, from the usual symptoms which attend the commencement of menstruation. These symptoms returned every four or five weeks, continuing perhaps a week, and then gradually subsiding, without being attended by any discharge from the vagina. This state of things held on for two years, various remedial means, such as general and local blood-letting, purgatives, the hip-bath, etc., having been employed; but, strange to say, the *vagina itself* was not examined, nor was it ever subsequently, up to the time that she came under my care.

At the age of fourteen, these symptoms were somewhat relieved by vicarious discharges of blood from the mouth, nose, and anus; and in this condition, at the age of fifteen, she was married. Her husband—a sailor—was drowned at sea about two months after marriage; but during the short period of their cohabitation, he had never been able to effect an entrance into the vagina. From the time of his death, up to the period of her marriage to her present husband, this state of things continued, but with aggravated symptoms. Frequently, so severe were her sufferings, as to endanger life; the pain in the head and back being beyond all control, and at the same time the abdomen and legs were very much swollen. The menstrual efforts, however, still recurred about every four weeks, being usually, though not always, followed by some vicarious discharge.

On questioning her as to her sexual feelings, she replied that they were strong, and that for her own sake and that of her husband, she was not only willing, but anxious, to submit to any surgical operation that might promise to qualify her for the performance of the duties of wedlock. On examination, I found the external parts well formed and prominent, the mons veneris well covered with hair, and the labia and nymphæ fully developed; but there was not the slightest trace of an os externum. On a plane with the meatus urinarius, there was extended a firm, smooth, elastic, fleshy substance, yielding readily to the pressure of the finger, and conveying the idea of a vacant space behind; but the vagina was entirely impervious, being completely occluded. The breasts were of the usual size, full and rounded; the whole form was well developed; and with the exception of the above-mentioned peculiarity, there was nothing to indicate any departure of nature from her universal laws.

On the following day, having visited her with my friend, Dr. McComb, it was decided to make an incision from the meatus downward, and to be guided, in our further proceedings, by circumstances as they might occur. The patient was placed on the edge of a bed in the position as for lithotomy; and the labia being now separated by the thumb and fore finger of the left hand, an incision was made extending about two and a half inches in the direction of the vagina. Considerable hæmorrhage followed; and as the novelty of the case seemed to demand time for consultation, we agreed to defer all further action till the next day, and to obtain the advice of some other of our professional brethren.

On the tenth of Jan., in company with Drs. D. L. Rogers and Edward Spring, I again visited the patient; and, on consultation, it was deemed advisable to deepen the incision, so far as to enable us to decide, if practicable, upon the existence or non-existence of a uterus; and to make, at the same time, a passage, to be subsequently kept open, that might answer some of the ordinary ends of the natural vagina. The patient being placed in the position as before, Dr. Rogers introduced a speculum within the passage already made, and proceeded carefully, partly with the handle and partly with the blade of a common scalpel, to extend the incision in the direction of the vagina. The parts yielded readily; and on withdrawing the speculum, the finger could be introduced about four inches from the external orifice; but its farther progress was arrested by a semi-membranous substance, apparently of firmer texture than that which had already been divided. As it was now deemed inexpedient to extend the incision any deeper, a tent was introduced, and the woman was left for the day.

It should, however, be remarked, that there was a diversity of opinion among us as to the existence of a uterus, as well as among those who subsequently examined her, several inclining to the belief that, by pressing firmly with the point of the finger against the inner portion of the artificial vagina, the os tincæ could be felt. Considerable abdominal irritation followed the operation, but this yielded readily to the usual remedies. On the third day, the tent was removed; the passage was found somewhat contracted at its upper portion, about three inches from the os externum; and here, for the space of about half an inch, the vagina had contracted itself upon the tent, so as scarcely to permit the finger to pass through it. Another consultation was now held as to the propriety of dividing this stricture; and in view of the evidently strong disposition of the part to contract, and being unwilling to subject the patient to the pain of an operation which would probably prove ineffectual, it was determined to trust to continued dilatation in the subsequent treatment of the case.

For tho ensuing fortnight, various contrivances were resorted to for the purpose of keeping the passage open, such as tents of cotton, sponge, and gum elastic tubes; but these were all not only difficult of introduction, but very painful in their removal. They proved of service, however, in preventing any great contraction of the walls of the vagina. At this period, Dr. Valentine Mott saw the patient with me, and he divided the stricture and extended the incision about one inch farther in the direction of the vagina; and now there was a free passage of about five inches, which it was necessary to endeavor to maintain. Distrusting the efficiency of the former tents, I introduced a common female syringe of the largest size, lubricated with oil, and retained it by a T bandage, so as to keep up a firm and unyielding, yet equable, pressure throughout the whole of the vagina. This was more easily introduced and withdrawn than any of the contrivances I had previously used. It created but little irritation at first, and this gradually subsided; and at the end of about three weeks, the disposition of the parts to contract ceased, the sides of the vagina lost their granulated feel, became soft and lubricated by a mucous fluid; in a word, the passage assumed the character of a natural vagina. I now withdrew the syringe, believing that the objects of the operation had been accomplished; and in the realization of this hope, both husband and wife have ever since rejoiced. Indeed, after a lapse of four months, there is not the least evidence of a supervention of contraction in the vagina.

The vicarious discharges have all ceased; and at each menstrual period since, she has had a sanguinious discharge from the vagina, continuing for three or four days. Her general health is now good, all her former distressing symptoms having disappeared—an exemption from suffering to which she has been a stranger ever since she was twelve years of age; and as regards the requirements of matrimony, save that of impregnation, she is now scarcely less perfect than her sex generally.

Besides the medical gentlemen already named, I would add in conclusion my indebtedness to Professor Gilman and Drs. A. E. Hosack and F. Cooper, for their kind council and assistance during the various stages of this highly interesting case.

Remarks.—Among the various kinds of imperforate vagina described by surgical writers, this is one of the most complicated in its nature; and as regards the requisite means of relief, it is attended with the most danger in consequence of the liability of wounding the bladder or rectum. This case, however, is instructive in many points of view.

In girls thus malformed, as is well known, when the period of menstruation appears, all the symptoms of pregnancy, in proportion as the blood accumulates internally, generally occur; but, in this instance, as nature established a vicarious monthly discharge of blood from the nose, mouth, and rectum, the necessity of an operation was obviated. It was not until the matrimonial state asserted its undeniable claim, that the knife of the surgeon became indispensable. But not only has the operation removed, on the part of the husband, the legal right to a divorce, but by allowing the menstrual fluid to take its natural course of evacuation, her long-lost health has been completely restored, aided doubtless by the enlivening mental feelings that must necessarily accompany this most extraordinary change in her physical nature. The vagina, to the extent to which it has been incised, is lined with a mucous membrane, not distinguishable from the same tissue under ordinary circumstances, and it admits the introduction of a speculum of the size ordinarily in use; and in conformity to this apparently natural state of things, she expresses herself not only free from all pain during the act of coition, but supposes that her pleasurable sensations are not less than is usual with her sex.

A not unfrequent misfortune in similar operations is, the subsequent contraction of the vagina to such a degree as to render the operation of no real advantage, as regards sexual intercourse; but, in the present instance, this unpleasant result has not supervened, rendering the opinion probable that nature originally formed a vagina, in which a deposition of an extraneous substance may have taken place simultaneously. This opinion is warranted on the supposition, that if there had been a mere adhesion of the sides of the vagina, the close proximity of the bladder and rectum would not have allowed an incision fully an inch in length between these two organs. As the speculum, however, reveals no os tincæ, it is a disputed question whether a uterus exists; but experience has shown that when the vagina is altogether occluded, the uterus is very apt to be found wanting. Hence arise the questions in reference to this case: Is impregnation probable, or is it possible? Whence come the bloody incoagulable monthly discharges?

ART. VIII.—*On Dietaries.* By CHARLES A. LEE, M. D.

WHILE much attention has been paid to the subject of DIETARIES, in Europe, especially in Great Britain, it is a somewhat singular circumstance that they should have been almost entirely overlooked in this country. While much has been done to improve the condition of our public institutions, prisons, hospitals, alms-houses, and lunatic asylums, in other respects, yet the subject of food—the quantity and quality best adapted to the preservation of health and life, under different circumstances—seems to have been regarded with but little interest, and as a matter of minor importance. For example, a society has been in existence in Massachusetts for about twenty years, called the "*Prison Discipline Society*," the object of which is, to improve the condition of prisons and their inmates, by pointing out abuses in the construction of the buildings, their internal arrangement, and general management; and although a gentleman of great intelligence and activity, Mr. Dwight, has devoted his whole attention to the matter for many years, by personal study, observation, and correspondence, both domestic and foreign, yet we do not find, on looking over the voluminous annual reports, any allusion to the subject of diet, except in one of an early date; notwithstanding many other subjects of minor consequence are discussed at great length, if not with an unnecessary degree of minuteness. It is rare, also, to find, in the annual reports of our hospitals and lunatic asylums, any allusion to the mode of living in these establishments, as though the duty of the attending physician were properly discharged, if there is a respectable account of drugs exhibited, patients physicked and phlebotomised, and operations performed. It may, however, be worth considering whether a greater ratio of cures would not be performed, both in public institutions, as well as private practice, by attaching more importance to the *Materia Alimentaria*, and less to the *Materia Medica*.

M. Pereira has truly remarked, that "the reports of the Inspectors of Prisons have furnished abundant evidence of the errors committed by magistrates in the dieting of criminals. Debility, diarrhœa, scurvy, and other evils, known to be consequences of defective nutriment, have prevailed in many of the prisons of this country to a serious and alarming extent." It is possible, and in some cases it no doubt has happened, that diseases have been attributed to this cause, which were owing to want of due ventilation, or want of cleanliness, or to some epidemic diathesis; but in all such cases, the evils have been aggravated by defective nutriment. This was particularly noticed during the prevalence of cholera in the United States, in 1832; for, while the the disease was attended with extraordinary fatality in those poorhouses and establishments where the diet was deficient in quantity or quality, or both; on the other hand, the mortality was very slight in those institutions where the inmates were supplied with an abundance of substantial and nourishing food.

The Inspectors of British Prisons, in their report for 1838, notice an instance, which illustrates the great importance of due attention to this subject:

"Scurvy," they remark, "prevailed at one time in the Lewes House of Correction; but, by an increase of diet it, disappeared. The diet was again diminished, and the scurvy again appeared. The diet was then permanently increased, the scurvy again disappeared, and has not since occurred." As the quantity of food necessary for the support of human health and life, varies under different circumstances, no general rule can be laid down of uniform application. This will be modified by age, sex, amount of exercise, constitution, state of health, condition of life, etc., etc.; all of which are to be duly considered by those who have the control of this department. Capt. Parry, for example, found that ten ounces of biscuit and nine ounces of beef, (pemmican) with one ounce of cocoa powder, were a sufficient daily allowance for the support of his crew on ship-board; but that it was entirely inadequate to their wants while engaged in severe labor ten or twelve hours a day, in the open air, and exposed to the wet and cold. The dietaries of Great Britain have therefore been constructed on this principle, the quantity of food being proportioned to the amount of hard labor. There are some remarks on this subject in the "Report of the Inspectors of Prisons," for 1842, which are well worthy of attention, as they are the result of actual observation.

> "In the construction of a dietary for a House of Correction, it is not unfrequently assumed that something less than what is the customary food of the laboring population of the vicinity should be sufficient for those in the degraded condition of criminals. Accordingly, in those agricultural districts where meat forms but a very small proportion of the ordinary food, less has been accorded, and in some instances none, without consideration being given to the wide distinction between the condition of the freeman and the prisoner:—the one enjoying purity of air, active bodily and healthful mental exercise, social intercourse, choice and diversity of diet. It is under such circumstances that the smallest modicum of animal food proves sufficient for the preservation even of the most robust health. But reverse the situation: place the individual, as an offender against the law, in a small, cold, ill-ventilated cell; a prey to his own reflections, or, what is worse, with his mind almost a vacuum, cut off from all real social intercourse, subjected to the irksome, uninteresting labor of treading a wheel or picking oakum; it is in this condition, I contend, that the stimulus of animal food becomes indispensable for his support against the inroads of low and debilitating diseases. I scarcely recollect an instance of scurvy being prevalent in a prison but where it might be distinctly traced to a want of variety in the diet, and its deficiency in nutritive qualities."

Mr. Pereira also observes:

> "That deprivation of liberty, with all its accompanying restrictions, exercises a depressing influence on the mind, and through this on the body, cannot be for a moment doubted. In this indirect way it becomes a means of affecting the organic functions; and thus it happens that an amount of nutriment, which, under the most cheering circumstances, is barely sufficient to sustain health, may prove, when conjoined with depressing mental influences, totally insufficient for the maintenance of health, and may be followed by scurvy and other diseases known to be common consequences of defective sustenance."

In the Dietaries for Prisons, recently adopted in England, the length of imprisonment has also been taken into consideration; those whose term of confinement is the longest, being furnished with a more substantial and nutritious diet than those sentenced for shorter periods. This is founded on the well-known fact, that as imprisonment exerts an injurious influence over the nutrition of the body, the effect will be more strongly marked in proportion as the term is protracted.

There is another circumstance too little regarded in the diet of our public institutions; we mean a *variety of food*. Though experiment and observation have established the fact, that considerable variety of food is absolutely necessary to the preservation of life and health, yet we often see this truth entirely disregarded. The importance of such variety is more strikingly apparent, since Liebig has shown that the animal system has no power of forming its organic constituents out of simple or elementary bodies. Textures, therefore, which are chemically different, require different aliments for their nourishment. It was maintained by Prout, (Bridgewater Treatise), and it has been the general opinion of physiologists, that the animal system has the power of forming the organic constituents of the tissues out of any substances which may happen to contain the same elements, but it is now very certain that it can only do so out of those substances whose composition and properties are analogous to, or identical with, those of the principles of which the tissues are composed.* It follows from this principle, that tissues which contain nitrogen, require nitrogenized foods, and we accordingly find that proteinaceous substances (fibrine, albumen, caseine, and glutin) serve for the formation of muscle and of the albuminous tissues; and in the case of infants nourished by milk alone, they must also become food for the gelatinous tissues (cartilage, cellular tissue, membrane, true skin, &c.) Want of space, as well as time, prevents our entering upon the extensive and somewhat obscure subject of the purposes which non-nitrogenized foods serve in the animal economy; but it is enough for us to know that they are essential to health, and that they should therefore form a part of our daily nutriment.

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*Liebig, however, makes an exception to this rule in favor of cellular tissue and membranes, and of the brain and nerves.

I. DIETARIES FOR CHILDREN.

In forming dietaries for children, we are to consider that in them nutrition is more active than in adults, for as the latter have only, as the saying is, *to hold their own*, the former have, in addition to this, *to grow*. For this reason they require a much larger amount of food, in proportion to their years and size, than adults; and if the hypothesis of Liebig be well founded, that non-nitrogenized food serves to sustain animal heat by combustion in the lungs, as the functions of circulation and respiration are more active in infancy and childhood than at any other period of life, this also will require an allowance of non-nitrogenous food, much greater in proportion to the weight of the body, than at any subsequent period. In addition to this, moreover, Liebig maintains that such food, by yielding carbon and hydrogen, to be burnt in the lungs, protects the organized tissue from the transformations consequent on the injurious action of oxygen. Hence, perhaps, the instinctive fondness of children for sugar and butter, which, notwithstanding they cannot yield blood, fibrine, or albumen, abound in carbon and hydrogen, so essential, on this hypothesis, to support the respiratory process, at an age when these elements cannot be furnished in sufficient quantity by the decomposition or metamorphosis of existing organisms.

If we view the subject aright, we shall consider the natural appetite as a true index of the wants of the system, and therefore to be regarded as a genuine rule in the dieting of children. If animal food be craved, we believe it would be wrong in general to prohibit it, and we would apply the same remark to vegetable diet. For the most part, after the first set of teeth have appeared, if children are allowed to have their choice, they will in nine cases out of ten select animal in preference to vegetable food. As animal food then suits their wants better than vegetable, *animal it should be.* We may stuff them as much as we please with sago and arrow-root, tapioca and potato-starch, sugar and butter; but as these articles do not contain the necessary ingredients for the growth of bone, cartilage, muscle, ligament, membrane, and cellular tissue, (because they contain no nitrogen, but are only elements of respiration,) we shall find that, when confined to these, they either fall off or cease to grow. Liebig maintains that if these substances are taken into the system in a quantity larger than is required for the purposes of respiration, the surplus may be converted into fat; but Dumas denies this, asserting that the fat exists ready formed in the food, and that in digestion it is taken into the blood and deposited in the cellular tissue. *Milk* is the most important of all articles of food for children, as the *caseine*, which forms a component part of it, is a proteinaceous substance, adapted for the growth of all the organized tissues, and abounding, moreover, with phosphate of lime, so essential to the formation of bone. The cereal grains afford valuable nitrogenized foods for children, as wheat, barley, oats, rye, &c. As to quantity, we believe that children are more often under-fed than over-fed. The injurious consequences resulting from the latter, are not so manifest; while those of the former come under observation daily in the shape of diarrhœa, marasmus, tumid bowels, worms, and a predisposition to a fatal attack of every epidemic disease that may be prevalent. The opthalmia, which has heretofore been the scourge of our orphan asylums and Long Island Farms school, owed its origin to defective nutriment, and its propagation and obstinacy to want of cleanliness and ventilation. When these abuses were reformed, the disease disappeared spontaneously, as was anticipated. In the winter of 1840, an epidemic diarrhœa prevailed among the children on the Long Island Farms, attended with highly malignant symptoms, such as mortification of different parts of the body; ulceration and consequent destruction of the eyes; a thin, dissolved state of the blood; offensive odor from the skin, &c. &c. The diet of the children was entirely unsuited to their ages, being coarse and indigestive, with scarcely any milk whatever, and bread of a very inferior quality. In addition to this, the children were crowded into small apartments, where but little attention could be paid to ventilation or cleanliness. We have no doubt, however, that the disease, which proved very fatal, owed its origin to the uniform, indigestible, innutricious diet, although it was doubtless aggravated by the other causes mentioned. At the Half-Orphan Asylum, in the 6th avenue in this city, it was lately the custom to furnish boiled corned-beef to the children on Sundays; but, as it was found to produce a very general diarrhœa, it had to be laid aside, for this reason, during the summer months. We believe that the thin, innutritious soups, which are generally dealt out three or four days in the week, to the inmates of these establishments, are decidedly bad; and that they ought to give place to solid food, even though it be nothing more than a small allowance of bread and cheese. Diarrhœa is also very apt to follow the continued use of pea-soup and potato-stews; and in ninety-nine cases out of an hundred, where the services of a physician are put in requisition for the relief of pauper children, they might, with the greatest advantage, give place to those of the cook. It is, as we have already said, the aid of the *materia alimentaria*, and not *materia medica*, which should be invoked.

"Scrofulous and strumous diseases," says Pereira, "marasmus, rickets, distortions, and pot-bellies, so commonly met with among children of the poor, are referable, in part, at least, to food defective either in quantity or quality, or perhaps in both. I think it will be found, that more than two-thirds of pauper children are strumous. They derive this condition, in part, perhaps, from hereditary tendency; but partly, as I believe, from defective nutriment. To the same cause is also ascribable their inferior developments. If the children in poor-houses be examined, they will be found, for the most part, smaller and shorter for their age, more frequently distorted, and more readily fatigued, than the children of the middling and higher classes." If any person doubts the truth of this statement, he has only to examine the children at the Long Island Farms, or at either of the Orphan Asylums in this city, in order to have his doubts removed. Instead of the cheerful, ruddy hue of health, he will see a pale, leucophlegmatic, and haggard expression of countenance; and instead of the smiling joyousness and elastic sprightliness of youth, he will observe the anxious lineaments and the torpid movements of old age. Banish your soups, which contain but two per cent. of solid matter, gentlemen and lady directors, and substitute, in their place, a plenty of good meat, bread, vegetables, and milk; and you will transform your quiet family of little old men and women, into boisterous, laughter-loving, disease-defying, boys and girls. There would be as great a transformation, as any we read of in Ovid.*

**Soup.*—The nutritive qualities of soup are exceedingly overrated. Common butcher's meat contains about one-seventh of its weight of fat and cellular tissue; when devoid of fat, it contains 74 per cent. water and 26 dry matter, the latter of which contains 13,6 parts of carbon. Of fresh lean beef, about 15 per cent. is composed of fibrine, vessels, and nerves; 1.9 per cent. of cellular tissue, convertible into gelatine by boiling; 2 per cent. of soluble albumen; some salts and coloring matter; and 77.17 per cent. of water.

Now, in boiling meat, the fibrine, which forms nearly the whole of the solid matter, (except bone,) is rendered harder, as it is entirely insoluble in water. The albumen, being partly solid and partly liquid, the latter is coagulated by boiling water; but a small portion, containing a quantity of nitrogen, is dissolved. The *hematosin,* or coloring matter, is entirely coagulated by heat, and forms brown floculi, which float upon the top of the liquid, forming the scum. The bones, aponeuroses, tendons, and cellular tissue, form gelatine by boiling, while the fatty matters melt and float on the top of the broth. The cerebral or nervous matter, is softened by heat, and carried off in vapor, forming the odor of boiled meat and of soup, under the name of *osmazome.* Besides these, there are several products, the result of unknown reactions, during ebulition, such as *creatine; ammonia; sulphuretted hydrogen;* two volatile acids, etc.

Broth then contains, *gelatine, albuminous matter, creatine, extractive matters, lactic acid, salts, fatty matter, saccharine matter, and water; and boiled meat* contains *fibrine, albumen, gelatinous cellular tissue, fat, nervous matter,* and *water.*

The vegetables employed communicate coloring and mucilaginous matters, sugar, nitrogenized matter, volatile oils, and salts. Onions and leeks furnish an acrid volatile oil; the sweet herbs an aromatic oil; and cruciferous plants, a sulphuretted and nitrogenized principle. (Pereira.)

The following table from Chevreul shows the quantity of alimentary matter contained in soups and broths:—

Substances used in the preparation of broth.		*Products.*	
Beef,	1.433	Broth,	8.4-10 wine pints.
Bone,	0.430	Boiled meat,	0.858
Common Salt,	0.040	Bone,	0.392
Water,	5000.000	Vegetables,	0.340
Turnips, Carrots, Onions, (burnt,)	0.331		

The specific gravity of the broth was 1.0136

2.1-10 wine pints contained,

		Water,	985.600
		Organic matters,	16.919
Salts,	Soluble,	Potash, Soda, Chlorine, Phosphoric acid, Sulphuric acid,	10.721
	Insoluble,	Phosphate of Magnesia, " Lime, Oxyde of Copper,	8.539
		Total	1013.6

Majendie states that 2.1-10 wine pints of broth, contain from 24 to 25 grammes (= 370 to 385 Troy grains) of dry matter, of which from 8 to 10 grammes (= 123 to 154 Troy grains) are saline substances. A pint of soup, according to this, will not contain over one drachm of solid matter, equal to about a single mouthful of meat.

It is strenuously contended by the Grahamites, that a vegetable diet is far preferable to one of animal food for children; but, thus far, we have not been convinced by their arguments. There is no doubt that life and health may be sustained by the cereal grains, potatoes, and fruit, as we know that they contain all the elements necessary for perfect nutrition and the growth of the several tissues; but experience has proved that a mixed diet, whether in children or adults, is preferable to one exclusively composed of either. The vegetable-eaters, to sustain their side of the question, have published an account of an experiment made in 1830, in the Orphan Asylum of Albany, from which, the following facts are gathered:

> "The institution was established about the close of the year 1829, or the beginning of the year 1830. Shortly after its establishment it contained seventy children, and subsequently many more. For the first three years the diet of the inmates consisted of fine bread, rice, Indian puddings, potatoes and other vegetables, and fruit with milk; to which was added flesh or flesh-soup once a day. Considerable attention was also paid to bathing and cleanliness, and to clothing, air, and exercise. Bathing, however, was performed in a perfect manner only once in three weeks. Many were received in poor health, and not a few continued sickly.
>
> "In the fall of 1833 the diet and regimen of the inmates were materially changed. *Daily ablution of the whole body*, in the use of the cold shower or sponge bath, or, in cases of special disease, the tepid bath, was one of the first steps taken; then the fine bread was laid aside for that made of unbolted wheat meal, and soon after flesh and flesh-soups were wholly banished; and thus they continued to advance, till in about three months more they had come fully upon the vegetable system, and had adopted reformed habits in regard to *sleeping, air, clothing, exercise*, &c. They continued on this course till August, 1836, when the results were as follows:—During the first three years in which the old system was followed, from four to six children were continually on the sick-list, and sometimes more. A physician was needed once, twice, or three times a week, uniformly, and deaths were frequent. During this whole period there were between thirty and forty deaths. After the new system was fairly adopted, the nursery was soon entirely vacated, and the services of the nurse and physician no longer needed, and for more than two years no case of sickness or death took place. In the succeeding twelve months there were three deaths; but they were new inmates, and were diseased when admitted, and two of them were idiots. The Report of the Managers says, 'Under this system of dietetics the health of the children has not only been preserved, but those who came to the asylum weakly, have become healthy and strong, and greatly increased in activity, cheerfulness, and happiness.' The Superintendents also state, that 'since the new regimen has been fully adopted, there has been a remarkable increase of health, strength, activity, vivacity, cheerfulness, and contentment among the children. The change of temper is very great. They have become less turbulent, irritable, peevish, and discontented, and far more manageable, gentle, peaceable, and kind to each other.' One of them further adds, 'there has been a great increase in their mental activity and power; the quickness and acumen of their perception, the vigor of their apprehension, and the power of their retention, daily astonish me.'"

In relation to the above experiment, the results appear to us to be owing more to the changes made in the general regimen, air, cleanliness, bathing, exercise, &c., than for the substitution of vegetable for animal food. In order to be satisfactory, the experiment should have been conducted with reference to the diet alone. As it is we do not see how it can be quoted, as it has been, as furnishing satisfactory evidence of the superiority of vegetable over animal diet. We have often known the same improvement take place among children in private families by the daily use of the shower bath, without making any alteration in their manner of living. The experiment, however, is a very valuable one, as it shows the great advantages which flow from a well-regulated system of air, exercise, and bathing.

In proof of the correctness of our opinion that the favorable results in this institution were not owing to a change of diet, we may refer to a similar experiment in a school in Germany, as contained in the "American Annals of Education" for August, 1836. Here meat was allowed, though food is stated to have consisted chiefly of bread and other vegetables, fruits and milk; but *cold bathing* was practised daily. The results, as stated by the teacher, were as follows:

> "I am at present the foster-father of nearly seventy young people, who were born in all the varieties of climate from Lisbon to Moscow, and whose early education was necessarily very different. These young men are all healthy; not a single eruption is visible on their faces; and three years often pass during which not a single one of them is confined to his bed: and in the twenty years that I have been engaged in this institution, not one pupil has died. Yet I am no physician. During the first ten years of my residence here, no physician entered my house; and not till the number of my pupils was very much increased, and I grew anxious not to overlook anything in regard to them, did I begin to seek at all for medical advice. It is the mode of treating the young men here which is the cause of their superior health; and this is the reason why death has not yet entered our doors. Should we ever deviate from our present principle—should we approach nearer the mode of living common in wealthy families—we should soon be obliged to establish in our institution, as they do in others, medicine-chests, nurseries, &c."

In individual cases, after children have acquired their first teeth, we have seen no advantages follow from confining them exclusively to vegetable diet, except in disease, and rarely then; but, on the contrary, we have known great improvement, especially among the children of the poor, from a more liberal allowance of animal food, and we doubt not that the dietaries of children should be formed on this principle.

Since writing the above, we have conversed with one of the founders and principal managers of the Albany "Orphan Asylum," and we find that the change in the health of the children could not with propriety be attributed to the substitution of vegetable for animal food. During the first few years after the establishment of the institution, it was located in a poorly-ventilated building, in one of the most crowded streets in the city of Albany, where fresh air and proper exercise were out of the question, and cleanliness was next to impossible. At the commencement of the experiment above mentioned, the children were removed into a large, commodious, and exceedingly well-ventilated building, situated out of the city, in one of the most delightful spots in the neighborhood of Albany. In addition to cold bathing, every morning the children were required to take an abundance of exercise—were confined but three or four hours daily in school, instead of six or seven, and were, moreover, allowed meat occasionally, though the principal part of the diet consisted of milk, potatoes, Indian mush, and a plenty of good bread.

But we will extend our view of the Dietaries of children to several other institutions:

NEW YORK ORPHAN ASYLUM.

Breakfast.		Bread and molasses, with a cup of milk, or milk and water.
Dinner.	*Monday*	Indian mush, with milk or molasses. Other vegetables.
	Tuesday	Soup and vegetables, bread, &c.
	Wednesday	Meat, hashed with potatoes and other vegetables.
	Thursday	Indian mush, or rice and molasses, or milk.
	Friday	Mashed fish and potatoes, (generally cod, fresh or salt.)
	Saturday	Soup, &c., as on Tuesday.
	Sunday	Cold roast beef and vegetables.
Supper.		Bread and milk, or bread and molasses. On Sunday, bread and butter, or gingerbread.

Remarks. There are 108 boys and 52 girls in the institution. Beef is the meat chiefly used. On Tuesdays and Saturdays sixty pounds of best quality of rounds of beef are purchased, making one hundred and twenty pounds weekly. On Saturdays the meat is boiled sufficiently for soup, then roasted and set aside to be eaten cold on Sunday. The bread is baked in the institution. Four and a half barrels of flour are used per week, and half a barrel of Indian meal. About 425 bushels of potatoes are consumed annually. Three cows are kept on the premises, and a small quantity of milk is purchased, amounting to about fifteen dollars annually. Milk is usually allowed night and morning, and once a week for dinner. The children are kept in school six hours a-day, and bathe in tepid water every Saturday. The deaths have averaged about two and a half annually. The children are allowed to eat what they want, within moderation. Though the children appear satisfied with their diet, yet they have not that florid and healthy appearance which is characteristic of rugged health. We believe that if meat were allowed daily, and in a much larger quantity, it would be an improvement in their system of diet; and if required to take more exercise, it would doubtless contribute to their health. The ophthalmia, which was formerly very prevalent in the institution, (and probably caused by want of ventilation and cleanliness, with perhaps too low a diet,) is now almost unknown.

Now a simple calculation will show that the above quantity of meat is but a mere fractional part of what these children ought to have. Supposing that there is no loss from bone or cooking, it would furnish but one pound to each child weekly, or about two ounces daily, avoirdupois weight. But it is found, by actual experiment at our city prison, that where beef consists of flanks, leg of mutton pieces, clods, and briskets, one-half consists of bone, which is to be deducted from the whole weight. In addition to this, there is a great loss in preparing and serving cooked meat in public institutions; such as the fat, the outside, and coarser parts of the beef; the evaporation and running off of the juices during carving, etc. In *mutton*, taking meat of all the seasons, it was found in some of the large establishments in London, that the average loss from these sources alone, was 17.5 per cent.; while in *beef*, wholly free from bone, as in the former case, the centessimal proportion of loss to the whole quantity cooked, was 17.6 lbs. Taking twenty-one work houses, however, in different parts of England, where the total consumption of beef and mutton, including loss, was, in a certain period, 297,990 pounds, the total loss, or waste in cooking and serving was (without bone) 90,434 pounds, or 30.06 per cent. If this calculation be anything like an approximation to the truth, it follows that the children of the New York Orphan Asylum are furnished with about three-fourths of an ounce of meat daily.

We believe that, were the experiment made, great benefit would follow from banishing soup entirely from the institution; or, if allowed, the meat, of which it is made, should be eaten at the same time with it. The meat should be roasted half the time at least; and potatoes, baked or boiled, should form a part of both breakfast and dinner, unless there is milk sufficient to allow each one a pint. Rice is highly nutritious, and being very cheap, should be served up frequently, with molasses, as a dessert. A dinner of mush and molasses alone is apt to be too relaxing to the bowels. Beef should never be boiled and then roasted, to be eaten cold the next day. In this manner the natural juices of the meat are all extracted, and the fibre becomes tough, dry, and indigestible, and therefore particularly hurtful to children. This is a custom which we should consider "more honored in the breach than in the observance."

NEW YORK PROTESTANT HALF-ORPHAN ASYLUM.

Dinner.	*Monday*	Bean-soup with bread.
	Tuesday	Mutton soup, with vegetables, (potatoes, turnips, carrots,) bread.
	Wednesday	Mutton, hashed, with potatoes and rice; clam-soup during the summer months, with potatoes and rice; or balls of flour boiled, with rice.
	Thursday	Beef-soup, with vegetables and bread.
	Friday	Beef, hashed, with potatoes and rice, bread.
	Saturday	Bread and butter, or rice.
	Sunday	Cold corned beef and bread, except during the summer months, when crackers and cheese are substituted for salt meat, which was found to produce bowel complaints.
Breakfast.		Bread and milk for the smaller children; bread with molasses, or sugar, or honey for the larger ones.
Supper.		Plain bread, except on Sunday night, when gingerbread is allowed.

Remarks.—The number of inmates ranges from 154 to 180; ages from three to nine years. Twenty-two quarts of milk are furnished daily, at 5½ cents per quart. Once a week the children are bathed in cold Croton water, except during the hot months, when the larger children are taken to the cold salt-water bath in the river. They remain in school six hours per day. Fifty pounds of mutton are purchased twice a-week, and fifty pounds of beef ditto. Occasionally codfish and potatoes, and fruit in its season, are furnished.

Now compare with the above, which we select from a large number, as samples of the dietaries of children in this country, the following, for the principal metropolitan establishments of a similar kind in England, for which we are indebted to Mr. Pereira's excellent work on "Food and Diet:"

"*London Foundling Hospital.*

1.—DIET FOR CHILDREN UNDER NINE.

Breakfast. Bread, 4 oz.; Milk, half-pint, boiled with an equal quantity of water.

Dinner.	Monday	4 oz. uncooked Mutton for roasting; 6 oz. Potatoes; 2 oz. of Bread.
	Tuesday	4 oz. of uncooked Beef to be boiled into soup, with 1½ oz. of Rice; 4 oz. of Bread.
	Wednesday	Same as Monday.
	Thursday	Same as Tuesday.
	Friday	Same as Monday.
	Saturday	Rice Pudding (viz, milk ¾ pint, rice 3 oz., treacle ½ oz.) and Suet Pudding (viz. flour 7½ oz., suet 1½ oz., milk ¾ of a pint) alternately.
	Sunday	4 oz. of uncooked Beef for roasting (cold); 6 oz. of Potatoes; 2 oz. of Bread
Supper.		Bread, 4 oz.; ¼ of a pint of Milk.

"2.—DIET FOR CHILDREN AT AND ABOVE NINE.

Breakfast.		Bread, 6 oz.; Milk, ½ pint, boiled with anequal quantity of water.
Dinner.	Monday	7 oz. of uncooked Mutton, for roasting; 10 oz. of Potatoes.
	Tuesday	7 oz. of uncooked Beef, to be boiled into soup; 4 oz. of Bread.
	Wednesday	Same as Monday.
	Thursday	Same as Tuesday.
	Friday	Same as Monday.
	Saturday	Rice Pudding, with Suet Pudding alternately.
	Sunday	7 oz. of uncooked Beef for roasting (cold); with 10 oz. of Potatoes.
Supper.		Bread, 6 oz.; Butter, ½ oz.; Treacle, alternate nights.

"3.—ROYAL MILITARY ASYLUM, CHELSEA.

(*Boys of from five to fourteen Years of Age.*)

Breakfast.		Milk Pottage. Milk, 1-6th of a quart; Oatmeal, 1-16th of a lb.; Bread, 1-20th of a quartern loaf.	
Dinner.	Sunday Tuesday Thursday Saturday	Meat, 8 oz.; Potatoes, 12 oz.; Bread, 1-20th qu. loaf. Beer ½ pint.	[On Sunday the meat is roast beef; on Tuesday and Thursday, stewed beef; and on Saturday, stewed mutton.]
	Monday Friday	Pudding, Suet, 1½ oz.; Flour, 6 oz.; Potatoes, 8 oz.; Beer, half a pint.	
	Wednesday	Pea-soup, 1 gill; Potatoes, 12 oz.; Bread, 1-20th of a quartern loaf; Beer, half a pint.	
Supper.	Daily	Bread, 1-20th of a quartern loaf.	
	Sunday Tuesday Thursday Saturday	Cheese, 1½ oz.; Beer, half a pint.	
	Monday Wednesday Friday	Milk, half a pint.	

"N. B.—The Meat is estimated as taken from the butcher, including bone.

"A proportion of the very small children on 6 oz. of Meat.

“ 4.—NAVAL ASYLUM, GREENWICH.

Breakfast.		1 pint Cocoa (½ oz. cocoa, ½ oz. sugar, 1 gill milk); 5 oz. bread.
Dinner.	Sunday Tuesday Thursday	Roast Beef, 9⅓ oz. Potatoes, 8 oz. Bread 3⅓ oz. Beer, half pint.
	Monday Friday	Suet Pudding { 1½ oz. Suet, 6 oz. Flour—Bread and Beer as above.
	Wednesday	Pea Soup (1 gill of Peas.) Potatoes, 8 oz.—Bread and Beer as above.
	Saturday	Muttton, boiled Potatoes, 8 oz. } Irish Stew—Bread and Beer.
Supper.		Half-pint Milk and 5 oz. of Bread.

“ 5.—INFANT ORPHAN ASYLUM, DALSTON.

Breakfast.		Bread and Milk daily.
Dinner.	Monday	Meat, or boiled Beef-steak Pudding.
	Tuesday	Mutton, (not over boiled,) Potatoes and boiled Rice.
	Wednesday	Cold Mutton and Family Pudding.
	Thursday	Roasted legs of Mutton and Potatoes.
	Friday	Cold Mutton and Family Pudding.
	Saturday	Roasted Beef, Potatoes, and Suet Pudding.
	Sunday	Cold Roasted Beef, and mashed Potatoes. Beverage—Toast-water.
Supper.		Bread and Butter, with Milk and Water.

“ Children under three years of age to have Beef Tea, or Mutton Broth, besides cold Meat on Sundays.

“ Where the medical officers prescribe, Beer is substituted at dinner for Toast-water.

“ Family Puddings to consist of dried Raisins, Apples, Rhubarb, &c., according to the season.

“ Green Vegetables are occasionally introduced, as circumstances require.

“ The Bread to be of the best quality, and two days old before cut.

“ The joints to consist of top sides of rounds of the best Ox Beef, weighing about 28 lbs., and legs of the best Wether Mutton, weighing about 10 lbs. each.

As much as they like to eat, within moderation.

“ 6.—MR. AUBIN’S ESTABLISHMENT AT NORWOOD, SURREY.

Breakfast.		Milk Porridge, with Bread in it.
Dinner.	Sunday Tuesday Thursday	Baked or Boiled Mutton or Beef, with Vegetables and Broth.
	Monday Friday	Soup with Bread in it.
	Wednesday Saturday	Baked or Boiled Rice Pudding, with Milk and Sugar.
Supper.		Bread and Butter, with Milk and Water.

“ Children under 8 years not restricted to quantity: those from 8 to 14 or 15 are allowed 1½ pints Porridge, 4 oz. Bread, 5 oz. Meat, 1 lb. Potatoes, ¾ pint Broth, 1½ pints Soup, 16 oz. boiled Rice, 6 or 8 oz. of Bread and Butter. Those under 7 years of age to be allowed Sago, Arrow-root, Milk, or any other nourishment their tender age may require.

"Children, when ill, to be dieted by the medical attendant. Roast Veal or Pork to be allowed on Easter and Whit-Sunday, and Roast Beef and Plum Pudding on Christmas-day."

It is unnecessary to offer many comments upon the above dietaries. Their great superiority to those of a like kind in our own country, is too obvious to need remark. We would direct attention particularly to the mode of living at Dalston, as furnishing a model well worthy of imitation in similar institutions among us. Meat, potatoes, and bread, (ad libitum,) followed by rice or pudding, daily, for dinner, with bread and milk for breakfast and supper, looks something like living; and then the infrequency with which *soup* is mentioned is altogether exhilarating. "Go ye and do likewise."

III. NAVY AND ARMY DIETARIES.

1. DIETARY OF THE UNITED STATES NAVY, FOR 1843.

The United States navy ration consists of the following daily allowance of provisions for each person:

One pound of salted pork, with half a pint of peas or beans; or one pound of salted beef, with half a pound of flour and a quarter of a pound of raisins, dried apples, or other dried fruits; or one pound of salt beef with half a pound of rice, two ounces of butter, and two ounces of cheese, together with fourteen ounces of biscuit, one quarter of an ounce of tea, or one ounce of coffee, or one ounce of cocoa, two ounces of sugar, and one gill of spirits; and of a weekly allowance of half a pound of pickles or cranberries, half a pint of molasses, and half a pint of vinegar. Fresh meat may be substituted for salt beef or pork, and vegetables or sour crout for the other articles usually issued with the salted meats, allowing one and a quarter pounds of fresh meat for one pound of salted beef or pork, and regulating the quantity of vegetables or sour crout so as to equal the value of those articles for which they are substituted.

When it is necessary, in the above daily allowance, it is lawful to substitute one pound of soft bread, or one pound of flour, or half a pound of rice, for fourteen ounces of biscuit; half a pint of wine for a gill of spirits, half a pound of rice for half a pint of beans or peas; half a pint of beans or peas for half a pound of rice.

When deemed expedient, the articles of butter, cheese, raisins, dried apples, or other dried fruits, pickles and molasses, may be substituted for each other and for spirits, provided the article substituted shall not exceed in value the article for which it may be issued, according to the scale of prices which is established for the same. In cases of necessity, the above daily allowance of provisions may be diminished, at the discretion of the commanding officer, allowing payment, however, in money for the deficiency, according to the established scale of prices.

No commissioned officer or midshipman, or any person under twenty-one years of age, is allowed to draw the spirit part of the daily ration, and all others are permitted to relinquish that part of their ration, drawing for it the value of the same in money.

2. DIETARY FOR THE BRITISH NAVAL SERVICE.*

"The victualling of the Navy," says Dr. John Wilson,† "is as nearly as possible uniform throughout the service as circumstances will permit; at sea it is almost entirely so; in harbor it varies more or less, according to the supplies of fresh provisions procurable in different places."

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* "Appendix, 19.

† "*Statistical Reports of the Health of the Navy, for the Years* 1830–1836. South American, West Indian and North American, Mediterranean and Peninsular Commands. Ordered by the House of Commons to be printed, March 24, 1840.

In the "*Regulations of His Majesty's Service at Sea,*" established by the King in Council, January 1st, 1833, is contained the following scale of diet used in the Navy:

"'There shall be allowed to every person serving in His Majesty's ships the following quantities of provisions, viz.:—

Bread - - -	1 lb.	Fresh Meat - - -	1 lb.
Beer - - -	1 gallon.	and	
Cocoa - - -	1 oz.	Vegetables - - -	½ lb.
Sugar - - -	1½ oz.	Tea - - - - -	¼ oz.

"'When fresh Meat and Vegetables are not issued, there shall be allowed in lieu thereof—

Salt Beef - -	¾ lb.	alternately	or Salt Pork - ¾ lb.
and			and
Flour - - -	¾ lb.		Peas - - - ½ pint.

"'And weekly, whether fresh or salt Meat be issued—

Oatmeal - - -	½ pint.	Vinegar - - - -	½ pint.

"'The following Scheme shows the proportion of Provisions with salt Meat for each man for 14 days:

DAYS OF THE WEEK.	Bread	Beer	Sugar	Cocoa	Tea	Beef	Pork	Flour	Peas	Oat-meal	Vine-gar
	lb.	*gall.*	*oz.*	*oz.*	*oz.*	*lb.*	*lb.*	*lb.*	*pint*		
Sunday . . .	1	1	1½	1	¼	¾	—	¾	—		
Monday . . .	1	1	1½	1	¼	—	¾	—	½		
Tuesday . . .	1	1	1½	1	¼	¾	—	¾	—		
Wednesday . .	1	1	1½	1	¼	—	¾	—	½	½	½
Thursday . . .	1	1	1½	1	¼	¾	—	¾	—		
Friday	1	1	1½	1	¼	—	¾	—	½		
Saturday . . .	1	1	1½	1	¼	¾	—	¾	—		
Sunday . . .	1	1	1½	1	¼	—	¾	—	½		
Monday . . .	1	1	1½	1	¼	¾	—	¾	—		
Tuesday . . .	1	1	1½	1	¼	—	¾	—	½		
Wednesday . .	1	1	1½	1	¼	¾	—	¾	—	½	½
Thursday . . .	1	1	1½	1	¼	—	¾	—	½		
Friday	1	1	1½	1	¼	¾	—	¾	—		
Saturday . . .	1	1	1½	1	¼	—	¾	—	½		
Proportion for 14 days	14	14	21	14	3½	5¼	5¼	5¼	3½	1	1

"'On the days on which Flour is ordered to be issued, Suet and Raisins or Currants may be substituted for a portion of Flour:

1 lb. of Raisins being considered equal to 1 lb of Flour.
½ lb. of Currants
½ lb. of Suet do. do. do.

"'In case it should be found necessary to alter any of the above species of Provisions, and to issue others as their substitutes, it is to be observed that—

1¼ lb. of Soft Bread
or
1 lb. of Rice - -
or
1 lb. of Flour - -
is to be considered equal to 1 lb. of Biscuit.

1 pint of Wine - -
or
½ pint of Spirits -
is to be considered equal to 1 gallon of Beer.*

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* Half a pint of spirits is not equal to one gallon of beer, nor to one spoonful. It contains no nutriment, as we have shown elsewhere, but is a pure stimulant.—L.

1 oz. of Coffee - - or ½ oz. of Tea - -	is to be considered equal to 1 oz. of Cocoa.
1 lb. of Rice - - or 1 pint of Calavances* or 1 pint of Dholl†	is to be considered equal to 1 pint of Peas.
½ lb. of Butter - -	is to be considered equal to 1 lb. of Cocoa.
2 lbs. of Cheese -	are to be considered equal to 1 lb. of Cocoa.
¼ lb. of Onions - - or ¼ lb. of Leeks - -	is to be considered equal to 1 lb. of other Vegetables.'

"After fourteen days' use of salt food, lemon juice, with an additional allowance of sugar, is issued as an antiscorbutic.'‡

"From these statements," says Dr. Pereira, "it is obvious that the quantity of food supplied to the Navy is most ample, though not excessive. The total weekly allowance, when either fresh or salt meat is issued, is as follows:

	Fresh Meat Diet.		Salt Meat Diet.
Bread - - - -	112 oz.	- - -	112 oz.
Meat - - - -	112 oz.	- - -	84 oz.
Vegetables - -	56 oz.	- - -	0 oz.
Flour - - - -	0 oz.	- - -	42 oz.
Peas - - - -	0	[1¾ pints say]	29¾ oz.
Oatmeal [½ pint say]	5 oz.	- - -	5 oz.
Sugar - - - -	10½ oz.	- - -	10½ oz.
Cocoa - - - -	7 oz.	- - -	7 oz.
Total	302½	- - -	290¼
Beer - - - -	7 gallons	- -	7 gallons
Vinegar - - -	0½ pint	- - -	0½ pint
Tea - - - - -	1¾ oz.	- - -	1¾ oz.

"The substitution of one kind of provision for another is an excellent arrangement, by which considerable variety of food, so necessary for the preservation of health, is obtained. A reasonable complaint, however, may be made with regard to the scale of equivalents adopted. It will be perceived that 8 oz. of fresh vegetables are considered equal to 12 oz. of flour, or to half a pint of peas: whereas in reality at least 86 oz. of fresh vegetables are required to be equal to 12 oz. of wheat flour.§

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* "*Calavances,* a kind of pulse. According to Sir H. Sloane, it is the *Phaseolus sphærospermus.*

† "*Dholl* or *Dal* is the split peas of India. That which is obtained from *Phaseolus radiatus* is reckoned the best kind.

‡ "Dr. J. Wilson's *Statistical Reports.*

§ "In making the above calculation, I have assumed that 100 parts of wheat flour contain 88 parts of dry nutritive matter, and that 100 parts of fresh vegetables (potatoes, cabbage, carrots, and turnips) contain, on the average, only 12.15 parts of dry nutritive matter. For

100 parts of potatoes contain about	- -	21	parts dry matter
" " cabbage " "	- -	7.7	" " "
" " turnips " "	- -	7.5	" " "
" " carrots " "	- -	12.4	" " "
Total	- - - - - - - -	48.6	
Average	- - - - - - - -	12.15	

"If we calculate according to Boussingault's nitrogen scale of nutritive equivalents, (see p. 27–28,) about 105½ parts of fresh vegetables (potatoes, cabbage, carrots, and turnips) are equivalent to 12 parts of wheat flour.

"Dr. Wilson declares the naval rations to be both abundant in quantity and excellent in quality; and he adds that they contribute largely to the high degree of health now enjoyed in the Royal Navy.

"The water employed in the navy was formerly carried to sea in casks, and soon became putrid and offensive, owing to the vegetable admixture. The substitution of iron tanks for casks has remedied this evil; and the water can now be kept for any length of time without becoming offensive either to the palate or nose. The metal becomes oxidized, and the oxide of iron thus formed mixes with the water; but, by its weight and insolubility, it soon falls, at least for the most part, to the bottom; and should a small portion remain suspended and be drunk, it can have no injurious effect, but may possibly prove beneficial."

United States Army Ration.

According to the most recent Army Regulations, the component parts of the ration are as follows:

"Three-fourths of a pound of pork or bacon, or one and one-fourth pounds of fresh or salt beef; eighteen ounces of [soft] bread or flour, or twelve ounces of hard bread, or one and one-fourth pounds corn-meal; and at the rate of four pounds of soap, one and a half pounds of candles, two quarts of salt, four quarts of vinegar, eight quarts of peas or beans, or (in lieu thereof) ten pounds of rice, six pounds of coffee, and twelve pounds of sugar, to the hundred rations. On a campaign or on board of transports at sea and on the lakes, the ration of [hard] bread is one pound."

But, at the same time, it is necessary to bear in mind, that as soldiers unite to form messes, a barrel of pork is very soon saved; and the government price is allowed for this by the commissary, who makes other purchases, such as potatoes, onions, tobacco, etc. Hence, vegetables, if they can be obtained, are always abundantly supplied. In bread there is also a saving of at least thirty per cent., as the baker furnishes a pound of bread for a pound of flour; and even this, he finds a not unprofitable exchange, after paying for rent, fuel. salt, and labor.

It is necessary, however, to postpone our intended comparison of American with British dietaries to the next number of this Journal.

British Army Ration.

The daily allowance to the soldier in Great Britain is one pound of bread and three-quarters of a pound of meat, making together one hundred and ninety-six ounces of solid food weekly. For this he pays a fixed sum daily, viz., sixpence, whatever may be the market price; any excess being paid by the government. He furnishes himself with other provisions.

III. BRITISH DIETARIES FOR PAUPERS.

The Poor-Law Commissioners of England have laid it down as a rule in the dieting of paupers, that while they are to have an adequate supply of wholesome food, it is not to be superior in quantity or quality to that which the laboring classes in the respective neighborhoods supply for themselves To accomplish this object, the Commissioners, in their Report for 1836, have adopted six dietaries for use in poor-houses; all of which have been tried in different parts of England, and found, according to Dr. Pereira, perfectly satisfactory, both as to quantity and quality of food. The articles which enter into these dietaries are the following:—Bread, gruel, meat, potatoes, butter, soup, suet or rice pudding, cheese, broth, tea, sugar, and vegetables. From four to eight ounces of meat are allowed two or three days in the week, for dinner, with three-fourths of a pound of potatoes; on two days, bread and cheese; two days, soup; and one day, rice or suet pudding, or dumplings. For breakfast, generally, a pint and a half of gruel or porridge, with eight ounces of bread; and for supper, bread and cheese, or bread and butter. The following will serve as samples of these dietaries; the one marked No. 2 is that of twenty-six Unions of the county of Kent, and it has been found to answer well, and to need no alteration.

"1. DIETARY FOR ABLE-BODIED MEN AND WOMEN.

		BREAKFAST.		DINNER.				SUPPER.		
		Bread.	Gruel.	Cooked Meat.	Potatoes	Soup.	Suet or Rice Pudding.	Bread.	Cheese.	Broth.
		oz.	*pints.*	*oz.*	*lbs.*	*pints.*	*oz.*	*oz.*	*oz.*	*pints.*
Sunday Tuesday Thursday	*Men*	6	1½	5	½	—	—	6	—	1½
	Women	5	1½	5	½	—	—	5	—	1½
Monday Wednesday Saturday	*Men*	6	1½	—	—	1½	—	6	2	—
	Women	5	1½	—	—	1½	—	5	2	—
Friday	*Men*	6	1½	—	—	—	14	6	2	—
	Women	5	1½	—	—	—	12	5	2	—

"Old people of 60 years of age and upward, may be allowed 1 oz. of tea, 5 oz. of butter, and 7 oz. of sugar, per week, in lieu of gruel for breakfast, if deemed expedient to make this change.

"Children under 9 years of age to be dieted at discretion; above 9, to be allowed the same quantities as women.

"2. GENERAL DIETARY FOR THE ABLE-BODIED.

		BREAKFAST.			DINNER.				SUPPER.		
		Bread.	Cheese.	Butter.	Meat Pudding with Vegetables.*	Suet Pudding with Vegetables.*	Bread.	Cheese.	Bread.	Cheese.	Butter.
		oz.	*oz.*	*oz.*	*oz.*	*oz.*	*oz.*	*oz.*	*oz.*	*oz.*	*oz.*
Sunday	*Men*	6	1	—	16	—	—	—	6	1	—
	Women	5	—	½	10	—	—	—	5	—	½
Monday Wednesday Thursday Saturday	*Men*	6	1	—	—	—	7	1	6	1	—
	Women	5	—	½	—	—	7	1	5	—	½
Tuesday Friday	*Men*	6	1	—	—	16	—	—	6	1	—
	Women	5	—	½	—	10	—	—	5	—	½

"Old people, being all 60 years of age and upward:—The weekly addition of 1 oz. of tea, and milk or sugar; also, an additional meat-pudding dinner on Thursday in each week, in lieu of bread and cheese, to those for whose age and infirmities it may be deemed requisite.

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* "The vegetables are extra, and not included in the weight specified.

"Children under 9 years of age:—Bread and milk for their breakfast and supper, or gruel when milk cannot be obtained; also, such proportions of the dinner diet as may be requisite for their respective ages.

"3. DIETARY FOR ABLE-BODIED PAUPERS.

		BREAKFAST.		DINNER.					SUPPER.	
		Bread.	Gruel.	Cooked Meat.	Potatoes or other Vegetables.	Soup.	Bread.	Cheese.	Bread.	Cheese.
		oz.	*pints.*	*oz.*	*lb.*	*pints.*	*oz.*	*.oz.*	*oz.*	*oz.*
Sunday Monday Wednesday Friday	*Men*	8	1½	—	—	—	7	2	6	1½
	Women	6	1½	—	—	—	6	1½	5	1½
Tuesday	*Men*	8	1½	8	¾	—	—	—	6	1½
	Women	6	1½	6	¾	—	—	—	5	1½
Thursday	*Men*	8	1½	—	—	1½	6	—	6	1½
	Women	6	1½	—	—	1½	5	—	5	1½
Saturday	*Men*	8	1½	Bacon. 5	¾	—	—	—	6	1½
	Women	6	1½	4	¾	—	—	—	5	1½

"Old people of 60 years of age and upward may be allowed 1 oz. of tea, 5 oz. of butter, and 7 oz. of sugar, per week, in lieu of gruel for breakfast, if deemed expedient to make this change.

"Children under 9 years of age to be dieted at discretion; above 9, to be allowed the same quantities as women.

"4. DIETARY FOR ABLE-BODIED PAUPERS OF BOTH SEXES.

		BREAKFAST.		DINNER.					SUPPER.	
		Bread.	Gruel.	Pickled Pork or Bacon with Vegetables.	Soup.	Bread.	Meat Pudding with Vegetables.	Rice or Suet Pudding with Vegetables.	Bread.	Cheese.
		oz.	*pints.*	*oz.*	*pints.*	*oz.*	*oz.*	*oz.*	*oz.*	*oz.*
Sunday Tuesday Friday	*Men*	8	1½	—	2	6	—	—	6	2
	Women	6	1½	—	1½	5	—	—	5	1½
Monday Thursday	*Men*	8	1½	—	—	—	—	12	6	2
	Women	6	1½	—	—	—	—	10	5	1½
Wednesday	*Men*	8	1½	5	—	—	—	—	6	2
	Women	6	1½	6	—	—	—	—	5	1½
Saturday	*Men*	8	1½	—	—	—	12	—	6	2
	Women	6	1½	—	—	—	10	—	5	1½

"The vegetables are not included in the weight specified, which is for the meat when cooked. If it be thought desirable, ½ an ounce of butter may be given to the women, in lieu of cheese for supper.

"Old people of 60 years of age and upward may be allowed 1 oz. of tea, 5 oz. of butter, and 7 oz. of sugar, per week, in lieu of gruel for breakfast, if deemed expedient to make this change.

"Children under 9 years of age to be dieted at discretion; above 9, to be allowed the same quantities as women.

" 5. DIETARY FOR ABLE-BODIED MEN AND WOMEN.

		BREAKFAST.		DINNER.						SUPPER.		
		Bread.	Gruel or Porridge	Cooked Meat.	Vegetables.	Soup.	Boiled Rice or Suet Pudding	Bread.	Cheese.	Bread.	Potatoes	Cheese.
		oz.	*pints.*	*oz.*	*lb.*	*pts.*	*oz.*	*oz.*	*oz.*	*oz.*	*lb.*	*oz.*
Sunday Thursday	*Men*	7	1½	5	¾	—	—	—	—	7	—	1½
	Women	6	1½	5	¾	—	—	—	—	6	—	1½
Monday Friday	*Men*	7	1½	—	—	1½	—	7	—	—	¾	—
	Women	6	1½	—	—	1½	—	6	—	—	¾	—
Tuesday	*Men*	7	1½	—	—	—	14	—	—	7	—	1½
	Women	6	1½	—	—	—	12	—	—	6	—	1½
Wednesday Saturday	*Men*	7	1½	—	—	—	—	7	3	—	¾	—
	Women	6	1½	—	—	—	—	6	2	—	¾	—

" Old people of 60 years of age and upward may be allowed 1 oz. of tea, 5 oz. of butter, and 7 oz. of sugar, per week, in lieu of gruel for breakfast, if deemed expedient to make this change.

" Children under 9 years of age to be dieted at discretion; above 9, to be allowed the same quantity as women.

" 6. DIETARY FOR ABLE-BODIED PAUPERS.

		BREAKFAST.			DINNER.						SUPPER.			
		Bread.	Cheese.	Butter.	Boiled Meat.	Potatoes	Yeast Dumpling.	Suet Dumpling.	Bread.	Cheese.	Bread.	Cheese.	Butter.	Broth.
		oz.	*oz.*	*oz.*	*oz.*	*oz.*	*oz.*	*oz.*	*oz.*	*oz.*	*oz.*	*oz.*	*oz.*	*pts.*
Sunday	*Men*	6	1	—	—	—	—	16	—	—	6	1	—	—
	Women	5	—	½	—	—	—	12	—	—	5	—	½	—
Monday *Wednesday Saturday	*Men*	6	1	—	—	—	—	—	6	1	6	1	—	—
	Women	5	—	½	—	—	—	—	6	1	5	—	½	—
Tuesday Thursday	*Men*	6	1	—	4	12	5½	—	—	—	6	—	—	1
	Women	5	—	½	4	12	5½	—	—	—	5	—	—	1
Friday	*Men*	6	1	—	—	—	11	—	—	—	6	1	—	—
	Women	5	—	½	—	—	11	—	—	—	5	—	½	—

" Old people, being all 60 years of age and upward:—The weekly addition of 1 oz. of tea, and milk or sugar, to those for whose age and infirmities it may be deemed requisite.

" Children under 9 years of age:—Bread and milk for their breakfast and supper, or gruel when milk cannot be obtained; also, such proportions of the dinner diet as may be requisite for their respective ages.

From these six dietaries each Board of Guardians of the Poor is required to select one most suitable to the circumstances of each Union.

It will be perceived that *beer* is not permitted unless specially ordered by the surgeon, and that the use of *tea* is confined to the aged and infirm. In all cases the sick to be dieted as directed by the medical officer.

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* " 1 oz. butter ordered on Wednesdays for men. Is it a typographical error ?

The following table gives a comparative view of these six dietaries :

		DIETARY No. 1.		DIETARY No. 2.		DIETARY No. 3.		DIETARY No. 4.		DIETARY No. 5.		DIETARY No. 6.	
		Men.	Women. Children above 9.	Men.	Women. Children above 9.	Men.	Women. Children above 9.	Men.	Women. Children above 9.	Men.	Women. Children above 9.	Men.	Women. Children above 9.
Bread	oz.	84	70	112	98	132	106	116	92	98	84	102	88
Cooked Meat . .	oz.	15	15	—	—	8	6	—	—	10	10	8	8
Potatoes	oz.	24	24	—	—	24	24	—	—	48	48	24	24
Suet or Rice Pudding	oz.	14	12	32*	20*	—	—	24*	20*	14	12	16	12
Cheese	oz.	8	8	18	4	18½	16½	14	10½	8½	8½	15	3
Meat Pudding with Vegetables†	oz.	—	—	16	10	—	—	12	10	—	—	—	—
Butter	oz.	—	—	—	7	—	—	—	—	—	—	1	6
Bacon	oz.	—	—	—	—	5	4	6	5	—	—	—	—
Yeast Dumpling .	oz.	—	—	—	—	—	—	—	—	—	—	22	22
Vegetable	oz.	—	—	—	—	—	—	—	—	24	24	—	—
Total		145	129	178	139	187½	156½	172	137½	202½	186½	188	163
Gruel	pints	10½	10½	—	—	10½	10½	10½	10½	10½	10½	—	—
Soup‡	"	4½	4½	—	—	1½	1½	6	4½	3	3	—	—
Broth	"	4½	4½	—	—	—	—	—	—	—	—	2	2
Vegetables . . .	"	—	—	?	?	—	—	?	?	—	—	—	—

The average weekly amount of solid food supplied by these dietaries is for men nearly 179 ounces, and for women about 152 ounces.

Dietary No. 1 - -	145 oz. - -	129 oz.
" No. 2 - -	178 oz. - -	139 oz.
" No. 3 - -	187½ oz. - -	156½ oz.
" No. 4 - -	172 oz. - -	137½ oz.
" No. 5 - -	202½ oz. - -	186½ oz.
" No. 6 - -	188 oz. - -	163 oz.
	1073	911½
Average - - - - -	178 5-6 - -	152 (about)

Now, according to the result of the Commissioners of Inquiry,§ agricultural laborers are unable to procure for themselves and families an average allowance of more than 122 oz. of solid food (principally bread) weekly; and if we assume that the man consumes 140 ounces (say 134 bread and 6 meat) as his share, it is evident that his allowance would not be equal to that of the above dietaries.

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* " Besides vegetables.

† "The vegetables are extra, and are not included in the weights specified."

‡ In making *soup* in the British poor-houses, besides *meat, split peas, onions* and *carrots, oatmeal, dripping, pepper, salt,* and *crumbs of bread,* are employed. For example, a pint and a half of the soup prepared at the poor-house of *St. George's, Middlesex,* contains 6 ounces of meat and bone, equal to 4½ ounces of solid meat, 1-7th of a pint of peas, 1-3d of an ounce of groats, 1-120th of an ounce of pepper, 1-15th of an ounce of salt, and 1-25th of a pennyworth of vegetables. Each pint of gruel contains 1¼ ounces of the best Berwick oatmeal; and suet puddings are composed of flour 1 lb., suet ¼ lb , water 13 oz., which yield on boiling 2 lbs. of pudding.

§ See Mr. Tuffnell's Report, in the *Second Annual Report of the Poor Law Commissioners.*

IV. AMERICAN DIETARIES FOR PAUPERS.

Notwithstanding the general prejudice against the British Poor-house system of dieting, there is good reason to believe that, as a general rule, it is equal, if not superior, both in quantity and quality, to that furnished the same class in this country. As the whole matter is regulated strictly by laws, which are enforced by the proper authority, there is but slight chance for abuses; and where they do creep in, they cannot long exist, where so prompt a remedy is at hand. In New England it is a very general practice for the different towns to put up their paupers, in general town meeting, to the lowest bidder, that is, to him who will agree to maintain them at the least expense. The consequence is, that the support of the poor is nothing more nor less than a perpetual experiment, to ascertain on how little food the soul and body of a human being may be kept together. But where this system does not prevail, the mode of living is equal, if not superior, to that in the British Poor-houses. For example, compare the following with the dietaries above given.

DIETARY OF THE BOSTON ALMS-HOUSE AND HOUSE OF INDUSTRY.

Dinners—Sunday, boiled rice and molasses; Monday, beans, baked or stewed, and pork; Tuesday, beef and soup, vegetables and wheat bread; Wednesday, baked beef, vegetables and wheat bread; Thursday, beef and soup, vegetables and bread; Friday, salt fish, vegetables and bread; Saturday, beef and Soup, vegetables and bread. *Breakfasts*—Tea or coffee, and white bread. *Suppers*—Chocolate and wheat bread. The diet of the sick is regulated by the medical attendants. The number of children in the house for the past year has been about 200, which deducted from the average number of inmates, 571, leaves 371 consumers of meat, without making any deduction for the sick in the hospital. 350 lbs. of best beef four times a week, at 4 cents per pound.

The allowance of meat for each ward is weighed off according to the number of persons, and ratably distributed among them. The bread, which contains a small quantity of Indian, is baked in the establishment. Excepting meat, there is no restriction as to the quantity of food. "No rebellions," says Dr. Smith, "are to be apprehended in the Boston Alms-house, like that which lately occurred in the Poor-house at Liverpool, because the appetite is satisfied. A story is abroad of an Irish pauper, at South Boston, who wrote home, advising his relatives to come out to this establishment immediately, as they *had meat twice-a-week.* We regard the moral and dietetic regulations of the city's institutions for prisoners and paupers as superior to those of all other cities or towns in the United States."

BALTIMORE ALMS-HOUSE.

The following is the general diet of the paupers:—

For *Breakfast*—Bread, and rye coffee, sweetened with molasses; for *Supper*, bread, and tea, sweetened with sugar.

Dinner—On Monday, beef and soup; Tuesday, mush and molasses; Wednesday and Thursday, beef and soup; Friday, herring, mush and molasses, or hommony; Saturday, beef and soup; and on Sunday, pork and vegetables.

Eight oz. of beef, or five oz. of pork, are allowed each pauper on the days animal food is furnished; and to each laboring pauper twenty oz. of bread; and to all others over one year old, sixteen oz. of bread per diem.

The diet of the sick is regulated by the physicians.

PROVIDENCE ALMS-HOUSE, RHODE ISLAND.

The diet of the inmates is as follows:

For *Breakfast*—Coffee, bread and butter, one morning, and alternately milk or milk-porridge and bread.

For *Supper*—Tea, bread and butter one night, and alternately milk or milk-porridge and bread.

For *Dinner*—Sunday, flour or Indian pudding and molasses; Monday, baked beef or pork; Tuesday and Thursday, soup; Wednesday, fresh meat, baked or roasted; Friday, pork and beans; Saturday, salt fish and potatoes.

Brown bread is used by all except the sick.

ALBANY ALMS-HOUSE.

The general diet of the paupers consists of bread and bohea tea, sweetened with molasses, for breakfast; soup five days in the week, and fish and potatoes two days in the week for dinner; mush and milk, or mush and molasses, for supper.

BELLEVUE ALMS-HOUSE, NEW-YORK.

The diet in this Institution is as follows:—For *Breakfast*, bread and tea, the tea sweetened with molasses, and a little milk. For *Dinner*, on alternate days, meat and soup; of beef, 17 lbs. are allowed for 15 rations; of pork, three-fourths of a pound to each person, and about one pound of bread with potatoes; on the other days, mush and molasses with bread. For *Supper*, the same as breakfast. A woman with a child, is allowed one and a half pounds of bread per diem for both. Each woman is allowed half a pint of milk per day, and a pound of tea per month. The bread, made of wheat flour, is baked at the establishment.

BLOCKLEY ALMS-HOUSE, PHILADELPHIA.

In this institution the general diet of the inmates is as follows:—

Every day for *Breakfast*—Coffee, half rye, half imported. Every day for *Supper*—chocolate or tea; both at breakfast and supper, as much good wheat bread is allowed as they can eat.

Dinner—On Sunday, soup; Monday, half a pound of beef, of which the soup was made on Sunday; Tuesday, hash, made of the fragments of beef; Wednesday, mush and molasses. Working men receiving in addition thereto, half a pound of meat or soup; Thursday, the same as Sunday, Friday as Tuesday, and Saturday as Wednesday. Besides, potatoes or wheat bread are allowed every day for dinner.

The diet of the sick is entirely regulated by their medical attendants. No pork is used in the establishment.

V. AMERICAN DIETARIES FOR PRISONS.

The common allowance of food in our penitentiaries is equivalent to one pound of meat, one pound of bread, and one pound of vegetables, per day. In some of them it varies from this, but it is generally equivalent to it. The food is generally wholesome and well prepared. The opinion has prevailed that the convicts in our penitentiaries have *too much* food, and of a better quality than they ought to receive. This, however, is a mistake, as proved by subsequent investigation. "In the Milbank Penitentiary in Great Britain," says Mr. Dwight, the agent of the Prison Discipline Society, "an experiment has been made on MAN, as to the quantity of food necessary to keep him alive. In such extensive establishments, a step once taken may lead to fatal consequences before it can be retraced. In this establisment, near London, the advocates of a severe discipline demanded a reduction of the diet of the prisoners, and a calculation was made, about the close of the year 1822, to ascertain how little food would sustain human life. There were at that time in the prison about 800 convicts, and their diet was reduced to half a pound of bread per day, and the soup made of ox-heads, in the proportion of one ox-head to one hundred males, and the same to one hundred and twenty females. A general decay of health was apparent, but the scurvy did not appear till January, 1843. The cases of disease increased rapidly, and on the 28th of February one hundred and eighteen were sick, and on the tenth of April, more than four hundred. It was found, on inquiry, that the meat of an ox-head weighed only eight pounds, which being divided among one hundred, allows only one ounce and a quarter to each prisoner. To this diet, the College of Physicians, after long delay, ascribed the production of the disease. It became necessary, at length, to remove every prisoner from the establishment, which was done, and the whole was purified. In consequence of this sickness, the House of Commons resolved to give to the future inmates a full and nutritive diet, as to quality and amount. This experiment on human life may be of great use on this side of the Atlantic, by preventing a severity, as dangerous to life as excessive indulgence is injurious to morals. The experiment shows that eight ounces of bread and one and a quarter of meat cannot sustain life; it does not show, however, that three pounds of food per day are necessary to life and health, and it may still be a question of great importance, whether the Milbank Penitentiary was not in one extreme, and the penitentiaries of the United States in the other; so that the subject is still open for consideration and experiment, though it is apparent, from the experiment at Milbank, that it should be conducted with great discretion when human life is at stake."

Experiment at Lamberton, N. J., in relation to the Food of Prisoners.

An experiment was made a few years since upon the prisoners at Lamberton, New Jersey, confined in solitary cells, by reducing the allowance of food. The men on whom the experiment was tried, were confined the whole term of their sentence in solitary cells. Some of them had been confined eighteen months, and some two years. Their allowance of food was only half the allowance of the men who were employed in the shops, and the allowance of the men in the shops was only half a pound of meat, together with one pound of bread, one gill of molasses, and about half a pound of vegetables per day. It is stated by the agent of the "Prison Discipline Society," that this reduced allowance had no injurious effect upon the health. "They appeared," says the Report, "as well, at least, as any class of prisoners who have been visited in this country; and the keeper, who has been thirteen years in the institution, stated, that the effect of solitary confinement, with this diet, had been very good; and that the prisoners all left the cells with a strong determination never to return to them, and no one had yet returned, nor did he believe that any one ever would return. If he was correct in this opinion—and there was every thing in the appearance and conversation of the prisoners in the cells to induce the belief that he was correct—then this mode of punishment, with a reduced allowance of food, is much better than where one-half or one-third of the whole number of prisoners are committed a second, third, fourth, fifth, or sixth time, which is the fact in several penitentiaries in the United States, where the men are fed abundantly." We may be permitted to express a doubt, in opposition to the apparent result of the above experiment, that where food is withheld to that extent as to amount to *punishment*, the health of the prisoners must necessarily suffer in a greater or less degree.

To illustrate the dietary systems in our prisons, we give the following, out of a large number which we might present, as they will serve to show sufficiently the mode of living in these establishments.

"DIETARY OF THE NEW YORK CITY PRISON.

Dinner.	Monday—Mush and molasses. Tuesday—Beef with soup and bread. Wednesday—Mush and molasses. Thursday—Fresh boiled beef, with soup and bread. Friday—Mush and molasses. Saturday—Fresh beef, and soup with bread. Sunday—Mush and molasses.
Breakfast.	Coffee, with molasses boiled in it, and bread."

Remarks.—No other meat than beef is furnished, and this consists of hocks and the coarser parts. It is estimated that one-half the weight of the beef consists of bone; on the days, therefore, on which meat is allowed, a sufficient quantity is purchased to allow one pound exclusive of waste, to each prisoner. If more is asked for, it is allowed. There are but two meals a day, the first at nine, A. M. Dinner at half-past two, P. M. (no supper). The coffee is half rye and half coffee, (cheapest kind). The bread is made of an inferior kind of flour; looks a good deal like Graham bread, and is baked at the alms-house. No potatoes or other vegetables are furnished during about half the year, say from March to October, and the soup is made during the whole of this time from beef alone, or with (ocasionally) crumbs of bread boiled in it. The number of prisoners ranges from 130 to 180, the average being about 150. The cells are small and poorly ventilated. In consequence of recent complaints, the Commissioners of the Alms-house are making arrangements to furnish the prisoners with potatoes and rice.

The diet of this establishment is a disgrace to our city. Only think of immuring men in close stone cells, just large enough for *tombs*, as they are very properly called, and then feeding them on nothing but coarse beef, with the water in which it is boiled, miscalled Soup, with no vegetables, and mush and molasses, on alternate days, with no suppers, and bread made of very inferior flour. The only wonder is, that the prisoners do not all die of scurvy, and they would, if they resided in the building for any length of time; as it is, the mortality is excessive A reform is loudly called for in this establishment, and we hope will not long be delayed.

BOSTON HOUSE OF CORRECTION.

The diet consists of the following materials, viz.:

18 oz. No. 1 beef, or 12 oz. pork, and 20 oz. bread per diem.
1 pint black tea for breakfast, and another pint for supper.
2½ bushels of potatoes for 100 rations.
1 quart of salt for " "
2 oz. black pepper, " "

Soup is occasionally given, with bread and potatoes. 1,610 lbs. of beef, at 4½ cents per lb., has been the weekly allowance. The average number of inmates is 291

Instead of meat each day, boiled fresh beef is now allowed three days in each week; beef soup, three days; and one day, baked beef. The allowance of meat now furnished, is 180 lbs. beef daily of the first quality, for 300 prisoners. The bread contains a small quantity of Indian, and is of the best quality. If prisoners ask for more bread than the regular allowance, it is given them. It is, however, part of an individual's punishment for disobedience of orders, to be shortened in the allowance of food. These facts are obtained from that excellent periodical, the "*Boston Medical and Physical Journal*," and are accompanied by the following remarks of the able editor, Dr. Smith:

"All experience teaches that men can be easily governed when they are well fed. The hungry are prompted, by the goadings of an empty stomach, to the worst acts in the history of our race. It is a sad mistake that the convicts in many of the penitentiaries of this country are kept at that exciting point of hunger which changes man into a devil in feeling and a brute in conduct."

VI. BRITISH DIETARIES FOR PRISONS.

As the subject of prison dietaries has hitherto received but very slight attention in the United States, we think it may be useful to show what has been done in Great Britain in relation to this matter. Of one thing we are very certain, and that is, that it should not be left to individuals who may have charge of prisoners, to decide what kind and what quantity of food shall be supplied to those under their charge; but that it should be regulated, like other matters of less consequence, by legal enactments.

"In January, 1843," says Mr. Pereira, "the Inspectors of Prisons made a Report to the Secretary of State, relative to the system of Prison Discipline, &c., in which they state that, with respect to Dietaries, they have arrived at the following conclusions:—

"1. We have framed a series of tables, according to the length of the imprisonment, the additional punishment of hard labor, and the sex of the prisoners; and, as far as practicable, with regard also to the kind and degree of discipline enforced other than hard labor.

"2. These dietaries are given as the minimum of what we recommend for each class, without reference to the local situations of the prisons, or to any peculiar circumstances which may render an increase necessary. Such peculiarities may also render it expedient, in certain cases, to substitute other kinds of food, (of an equivalent amount of nutriment,) for some of those included in the scale of diet.

"3. The principle which we are of opinion ought to be acted on in framing a scale of prison diet, and that which we have endeavored to carry into effect, as far as possible, in the annexed scale, is, that that quantity of food should be given in all cases which is sufficient, and not more than sufficient, to maintain health and strength, at the least possible cost; and that while due care should be exercised to prevent extravagance or luxury in a prison, the diet ought not to be made an instrument of punishment.

"4. In endeavoring to ascertain the precise quantities of food which ought to be allowed to different classes of prisoners, in accordance with the foregoing principle, we have been guided by our own experience, by the opinions of several prison medical officers of long standing, and by the dietaries in use.

"5. We are of opinion that there ought always to be three meals each day in prisons, and that at least two of the three should be hot.

"6. That there should be variety in the kinds of food forming the diet, with occasional changes; and that a considerable portion of the food should be solid.

"7. That in the selection of the kinds of food, it is essential, for the maintenance of health, to include substances which are necessary for the support of the various parts of the body.

"8. That it is very important to ascertain that the water is pure and wholesome, and that there is an abundant supply.

"9. That prisoners should not be set to work immediately after any meal.

"10. That animal food should form part of the diet of prisoners employed at hard labor.

"11. That the attention of the medical officer should be directed to the scale of diet on which each prisoner is placed, and that he should have a discretionary power to increase or diminish the quantity of food ,with reference to the constitution and state of health of the particular prisoner.

"12. That with regard to age, it is only in the extremes of youth and old age that any distinction of diet is advisable, and that the discretion of the medical officer should extend to these cases."

It appears, however, that the inspectors were not unanimous as to the dietaries; and it is but fair, therefore, that the reader should be put in possession of the following *Reasons of Dissent as to the Scales of Diet* assigned by Mr. F. Hill, one of the Inspectors :—

"1. There is at present a great want of information on the subject of diet generally, both as respects the real quantity of nutriment required for health under various circumstances, and the best form in which that nutriment can be given, as regards bulk, solidity, quantity of animal matter, and the necessary variety to supply all the wants of the frame for renewing bone, muscle, &c. There is but little certain knowledge also respecting the comparative quantity of nutriment contained in substances of different kinds, such as wheaten bread, meat, and potatoes.

"2. Owing to the many circumstances which affect the natural demand for food, such as age, sex, constitution, state of health, kind and quantity of work, it is difficult, under any arrangement, to determine what quantity of food any prisoner ought to have; and it is impossible, in my opinion, to classify prisoners for this purpose, with any degree of accuracy, otherwise than by considering the case of each prisoner separately, which may be done by laying down a few scales of diet, and then empowering those who must be best acquainted with the case of each prisoner, viz., the Governor and Surgeon, to settle, from time to time, subject to the control of the visiting justices, on what scale each prisoner shall be placed.

"If a classification be made according to any one or two only of the disturbing causes, the rate of diet, if suited to the wants of a portion of the class, will, in my opinion, be found insufficient for some and too much for others, producing injury to health in both cases, and in one waste and extravagance also.

"3. While it is right to give prisoners such a quantity of food as will keep up robust health, it is important to allow nothing beyond what is really necessary; both because excess of food is injurious to health as well as deficiency, and because the motives of honest industry will be weakened if any thing like luxury be admitted into prisons.

"4. It having been declared as a principle that the allowance of food ought not to be made an instrument of punishment, and that that quantity of food should be given which is sufficient, and not more than sufficient, to maintain health and strength, I cannot see any ground for giving less food to a prisoner who is employed at the same kind of labor as another prisoner, and otherwise similarly circumstanced with him, except that he is to leave the prison sooner, unless, as has been alleged, the expectation of a long imprisonment has a depressing effect on the mind, and that effect can be counteracted, in its influence on the health, by a greater quantity of food. Without inquiring into the accuracy of the fact, as a general rule, I cannot agree to the inference from it. I believe, on the contrary, that a depressed state of the mind weakens the digestive powers, and makes them incapable of receiving even so much food as when the mind is cheerful."

Sir James Graham, Her Majesty's Secretary of State for the Home Department, in a letter to the Chairman of Quarter Sessions, dated 27th January, 1843, adopts the recommendations of the Inspectors with regard to dietaries, and offers the following very proper observations:

"I desire to call the especial attention of the magistracy to those rules which relate to the Diet of Prisoners. On the proper adjustment of this particular, their health mainly depends; and I am convinced that the adoption of the proposed scales will prevent the recurrence of those complaints which have frequently been preferred, and in some instances justly preferred, against the prison authorities. It is by no means intended that the precise articles of food specified in the dietaries should be strictly adhered to in the table which you may adopt; other kinds of food, *containing an equivalent amount of nutriment*, may, with advantage, be substituted, when those articles which have been named are either difficult to be obtained in your neighborhood, or are considered not suited to the customs and habits of the prisoners; but that quantity of food must, in all cases, be given, which is sufficient, though not more than sufficient, to maintain health and strength at a moderate cost; and, while due care should be exercised to prevent any approach to luxurious living in a prison, the diet ought on no account to be made an instrument of punishment. I have consulted not only the Prison Inspectors, but medical men of the greatest eminence, possessing the advantage of long experience; I have carefully revised the dietaries now in use; and I have come to the conclusion—

"1stly, That animal food should in all cases form part of the diet of prisoners employed at hard labor.

"2dly, That a considerable portion of the food of every prisoner should be solid; and

"3dly, That there should be variety in the kinds of food forming the diet, and that occasional changes are necessary.

"The dietaries which I now offer for your adoption are framed on these principles, and are upheld by medical science, and by the recommendation of persons on whose authority and knowledge reliance may be placed; but they have been framed without reference to the local situations of particular prisons, or to any peculiar circumstances which may render an increase necessary; they are therefore proposed as the *minimum* amount which can safely be afforded to prisoners without the risk of inflicting a punishment not contemplated by law, and which it is unjust and cruel to inflict, namely, loss of health and strength through the inadequacy of the food supplied."

DIETARIES FOR PRISONS IN ENGLAND AND WALES,

Recommended by the Prison Inspectors, and ordered by Her Majesty's Secretary of State for the Home Department.

CLASS I.

Prisoners confined for any term not exceeding three days:

	Males	*Females.*
Breakfast.	1 pint of Oatmeal gruel,	1 pint of Oatmeal gruel.
Dinner.	1 lb of Bread,	1 lb of Bread.
Supper.	1 pint of Oatmeal gruel,	1 pint of Oatmeal gruel.

CLASS II.

Convicted prisoners for any term exceeding three days, and not exceeding fourteen days:

	Males	*Females*
Breakfast.	1 pint of Oatmeal gruel; 6 oz. of Bread	1 pint of Oatmeal gruel; 6 oz. of Bread.
Dinner.	12 oz. of Bread.	6 oz of Bread.
Supper.	1 pint of Oatmeal gruel; 6 oz. of Bread.	1 pint of Oatmeal gruel; 6 oz. of Bread

Prisoners of this class, employed at hard labor, to have, in addition, 1 pint of Soup per week.

CLASS III.

Prisoners employed at hard labor for terms exceeding fourteen days, but not more than six weeks:

	Males.	*Females*
	Breakfast —1 pint of Oatmeal gruel, 8 oz of Bread.	1 pint of Oatmeal gruel; 6 oz. of Bread
Sunday, Thursday,	Dinner —1 pint of Soup; 8 oz. of Bread.	1 pint of Soup; 6 oz. of Bread.
Tuesday, Saturday,	3 oz of cooked Meat, without bone; 8 oz. of Bread; ½ lb of Potatoes.	3 oz of cooked Meat without b'ne; 6 oz B'd; ½ lb Pot's.
Monday, Wednesday, Friday,	8 oz. of Bread; 1 lb. of Potatoes, or 1 pint of Gruel, when Potatoes cannot be obtained.	6 oz of Bread; 1 lb of Potatoes, or 1 pint of Gruel when Po's. cannot be obtained.
	Supper.—Same as breakfast.	Same as breakfast.

CLASS IV.

Prisoners employed at hard labor for terms exceeding six weeks, but not more than three months:

	Males.	*Females.*
	Breakfast.—1 pint of Oatmeal gruel; 8 oz. of Bread.	1 pint of Oatmeal gruel; 6 oz. of Bread.
Sunday, Tuesday, Thursday, Saturday	Dinner.—3 oz. of cooked Meat, without bone; ½ lb. of Potatoes; 8 oz. of Bread	3 oz. of cooked Meat, without bone; ½ lb. of Potatoes; 6 oz. of Bread.
Monday, Wednesday, Friday,	1 pint of Soup; 8 oz. of Bread.	1 pint of Soup; 6 oz. of Bread.
	Supper.—Same as Breakfast.	Same as breakfast.

CLASS V.

Prisoners employed at hard labor for terms exceeding three months:

	Males.	*Females.*
Sunday, Tuesday, Thursday, Saturday,	Breakfast —1 pint of Oatmeal gruel; 6 oz. of Bread.	1 pint of Oatmeal gruel; 6 oz. of Bread.
	Dinner.—4 oz. of cooked Meat, without bone; 1 lb. of Potatoes; 6 oz. of Bread.	3 oz. of cooked Meat, without bone; ½ lb of Potatoes; 6 oz. of Bread.

Monday, Wednesday, Friday,	Breakfast.—1 pint of Cocoa, made of ¾ oz. of flaked cocoa or cocoa-nibs, sweetened with ¾ oz. of molasses or sugar; 6 oz. of Bread.	1 pint of Cocoa, made of ¾ oz. of flaked cocoa or cocoa-nibs, sweetened with ¾ oz. of mo. or sug; 6 oz. of Bread.
	Dinner.—1 pint of Soup; 1 lb. of Potatoes; 6 oz. of Bread.	1 pint of Soup; ½ lb of Potatoes; 6 oz. of Bread
	Supper, the seven days.—1 pint of Oatmeal gruel; 6 oz. of Bread.	1 pint of Oatmeal gruel; 6 oz. of Bread.

CLASS. VI.

Convicted prisoners not employed at hard labor for periods exceeding fourteen days:

	Males .	*Females.*
	Breakfast.—1 pint of of Oatmeal gruel; 8 oz. of Bread	1 pint of Oatmeal gruel; 6 oz. of Bread
Sunday, Tuesday, Thursday, Saturday,	Dinner.—3 oz of cooked Meat, without bone; ½ lb. of Potatoes; 8 oz of Bread.	3 oz. of cooked Meat, without bone; ½ lb. Potatoes; 6 oz. of Bread.
Monday, Wednesday, Friday,	1 pint of Soup; 8 oz. of Bread.	1 pint of Soup; 6 oz. of Bread.
	Supper.—Same as breakfast.	Same as breakfast.

CLASS VII.

Prisoners sentenced by Court to solitary confinement:

Males	*Females.*
The same as Class VI.	The same as Class VI.

CLASS VIII.

Prisoners for examination, before trial, and misdemeanants of the first division, who do not maintain themselves:

Males.	*Females.*
The same as Class IV.	The same as Class IV.

CLASS IX.—DESTITUTE DEBTORS.

Males.	*Females.*
The same as Class IV.	The same as Class IV.

CLASS X.

Prisoners under punishment for prison offences for terms not exceeding three days:

1 lb. of Bread per diem.

Prisoners in close confinement for prison offences under the provisions of the 42d section of the Jail Act:—

	Males	*Females.*
Breakfast.	1 pint of Gruel; 8 oz of Bread.	1 pint of Gruel; 6 oz. of Bread.
Dinner.	8 oz. of Bread.	6 oz of Bread.
Supper.	1 pint of Gruel; 8 oz of Bread.	1 pint of Gruel; 6 oz. of Bread.

NOTE.—The Soup to contain, per pint, 3 oz. of cooked meat, without bone, 3 oz. of potatoes, 1 oz of barley, rice, or oatmeal, and 1 oz of onions or leeks, with pepper and salt. The Gruel, when made in quantities exceeding 50 pints, to contain 1½ oz. of oatmeal per pint, and 2 oz per pint when made in less quantities. The Gruel on alternate days to be sweetened with ¾ oz. of molasses or sugar, and seasoned with salt.

"These dietaries," says Dr. Pereira, "appear to be well calculated to carry into effect the principles laid down by the Prison Inspectors, that the quantity of food supplied to prisoners should in all cases be sufficient, and not more than sufficient, to maintain health and strength."

(*To be continued.*)

PART SECOND.

Critical Analysis.

ART. IX.—*Œuvres Complètes d'Ambroise Paré. Revues et Collectionées sur toutes les editions, avec les variantes; Ornées de* 217 *Planches et du Portrait de l'Auteur; accompagnées de Notes Historiques et Critiques, et precedées d'une Introduction sur l'Origine et les Progres de la Chirurgie in Occident du sixième au seizième siècle et sur la vie et les Ouvrages d'Ambroise Paré.* Par J. F. Malgaigne.

The Complete Works of Ambrose Paré. Revised and Collected from all the former editions, with their various readings; illustrated with 217 *Engravings, and with a Portrait of the Author; accompanied with Notes Historical and Critical; and preceded by an Introductory Essay on the Origin and Progress of Surgery in the West of Europe, from the sixth to the sixteenth century, and on the Life and Works of A. Paré.* By J. F. Malgaigne. Paris, 1841. 3 vols. 8vo. pp. 2500.

IN presenting to the Profession this splendid edition of the works of Paré, M. Malgaigne, to use his own words, has erected a monument to the memory of the author, not unworthy of his fame. The introduction, by the editor, occupying some 350 pages of the first volume, is an interesting and valuable history of Surgery, from the decline of Arabic literature to the middle of the sixteenth century, and of its progress, under the hands of Paré and his contemporaries, during the remaining half of that century. In this essay, probably for the first time, we find the father of French Surgery placed in his true light; enjoying all the credit that belongs to him as a reformer and compiler; and stripped of those plumes which he never claimed as his own, yet which some of his modern admirers in his own country would fain bestow upon him. The labor of preparing this edition, of collating and compiling its diversified materials from the numerous former editions of the united works and earlier detached essays of the author, must have been, indeed, immense; and having accomplished it with accuracy, and enriched the whole with numerous and important notes, M. Malgaigne has produced what may properly be said to be the only complete edition of Paré's works that has ever yet appeared. Henceforth, then, the name of Malgaigne must be as intimately associated with that of Paré as has heretofore been the name of Guillemeau, his pupil, friend, and earliest annotator.

It would be, on the present occasion, did time and space permit, a pleasant and profitable exercise, to enter into a brief exposition of the state of Surgery about the time at which the humble youth of Laval first entered the capital of France in search of occupation as a barber's apprentice; to follow him in his subsequent walks through the wards of Hôtel Dieu, those ancient halls, alas! now forever gone, to give place to others no longer associated with the memory of Paré, Desault, Bichat, or Dupuytren; to watch his progress in the anatomy and meager drudgery of the day, up to his admission as a master-barber-surgeon; to follow him to the camp, and, amid the stirring incidents of war, to note his anxious solicitude for the wounded, whom, after the affair of Pas de Suze, he was forced to leave undressed, for lack of the boiling oil, wherewith it was the practice of the time to cauterize all gun-shot wounds, with the view of destroying what was supposed to be their envenomed character; to observe his surprise on the following day at finding those concerning whom he had passed a restless and uneasy night, in a better condition than their comrades who had been dressed with the scalding specific; to note his rapid generalization of the discovery which led him, yet a youth, to oppose the authorities of the age, and almost immediately afterward to effect a sort of revolution in the whole system of military surgery; to stand by him at the siege of Damvilliers, where, for the first time, he employed the ligature for arresting the flow of blood after amputations, a practice which from that date superseded the ancient and cruel use of the actual cautery in all similar cases; to follow him through his numerous subsequent campaigns, amid dangers, temptations, and imprisonments; from one practical improvement, and from one useful and elaborate publication to another, until his fame at length burst forth in all its brilliancy, until the old collegiate fraternity of St. Côme stooped from its ancient usages for the honor of receiving him as one of its members, and until at last we find him at the summit of professional fame—the chief surgeon and counsellor of kings; through every change of fortune the enthusiastic cultivator of that science which his talents have so much adorned; the untiring practitioner, as ready to devote his energies to the relief of the humblest soldier as of the most illustrious chief; the unwavering man of principle, and of confiding trust in the goodness and providential care of his Creator; and who, in an age of turbulent religious excitement, without sacrificing his opinions, evinced, on every occasion, prudence sufficient to preserve himself independent of all sectarian strife. On most, if not all of these subjects, M. Malgaigne has done him full and equal justice; but such of our readers as are curious to become acquainted with the life and labors of Paré, we must refer to this introductory essay.

There is much to admire, and but little to find fault with, in this learned essay. The few errors and omissions which M. Malgaigne himself has detected, have been corrected, or supplied, in the preface to the third volume. Our hurried perusal of the work has led us to discover but one inaccuracy, and that a very slight one, in attributing to Lanfranc, a surgeon of the thirteenth century, the first description of twisting of the bones of young persons after injuries, an accident long before described by Oribasius. The only other drawback we can discover is what appears to us an overweening desire to be fastidious in the admission of facts connected with the life of Paré. Thus, after some needless labor to show that Paré was born in 1517, and not in 1509, as commonly reported, he is obliged at last to correct himself in the prefatory notices to the last volume. Again, after attempting to show, from what is evidently insufficient ground, that Paré was a believer in the doctrines of the church of Rome, and not a Huguenot, he is after all forced to admit, that prior at least to the massacre of St. Bartholomew's, Paré had been an open advocate of Calvanism. The essay would have been still more valuable than it is, had M. Malgaigne, before closing his account of the author, given us a summary and collected view of his discoveries, inventions, and improvements in surgery. This has not been done; but in lieu of it, he has, in notes, dispersed throughout the volumes, carefully pointed out every thing that appears to have been original with Paré; and more than this, he has also, with great learning and research, pointed out the numerous authors from whom Paré has drawn so profusely in making up the diversified materials of these volumes.

Our author had not the advantages of early education; but like many other great men, both before and since his day, his want of what is usually called education, had rather a beneficial than an injurious effect in the development of his abilities. In later life, he appears to have devoted much time to study; and M. Malgaigne gives a list of more than two thousand authors, ancient and modern, with the writings of all of whom he must have been more or less familiar. He lived in an age of scholastic pedantry, the main feature of which appears to have been a blind and devoted adherence to ancient authorities; and we are not to be surprised that Paré, like Bacon, at a later period, notwithstanding his evident perception of a higher philosophy, should have been entrammeled by the prevailing doctrines of his epoch. Indeed, most that is absurd in the writings of both of these great men, is not originally their own; but it is rather the result of the opinions they imbibed in devoting themselves to the philosophy of their contemporaries. Had Paré possessed no other merit than his respect for authority, he would have long since been confounded with the host of compilers of his era—the Tagaults, the Chaumets, the Reulins. It is, as Malgaigne remarks, curious to observe him struggling and hampered in the narrow circles of their scholastic literature, seeking at every turn an outlet; and yet in venturing to lay down opinions of his own, not daring to appear too much at variance with the received doctrines, and supporting his innovations by reference to the ancients. But, growing bolder by degrees, he at length discovers that these ancients may have erred; he combats in turn Albucasis, Paulus Ægineta, Celsus, and even ventures to criticise Hippocrates himself.

It has been observed that if Paré, instead of drawing up his voluminous compilations, had given to the world a simple exposition of his own observations and improvements, he would have been of greater service to the profession. Doubtless it is easy for modern critics, in full enjoyment of the scientific treasures of the present age, to cast a look of scorn upon a work of the sixteenth century. The historian also, in tracing the progress of scientific discovery, may experience some annoyance in having to wade through innumerable details in order to emulate the original materials. In these two points of view, Paré is unquestionably prolific. But may we not be allowed to believe, with M. Malgaigne, that our author, with an eye toward posthumous reputation, labored, nevertheless, with more especial reference to the advancement of the surgery of his own times? And if all of our distinguished writers were to be judged with like severity, what would be left to us of Celsus, of Galen, of Guy de Chauliac! Even in our own day, who will say that Boyer would have done more for his own reputation, and better for the interests of science. by condensing within a few pages the results of his own experience, than by tracing with a master's hand, in his eleven volumes, the triumphs of modern surgery?

But in order properly to appreciate the value of Paré's labors, we should remember that from the early dawn of modern learning up to the period at which he wrote, there had appeared but two works on surgery having any claim to the character of classical productions, that of Guy de Chauliac and that of Jean de Vigo, both already obsolete; and in direct opposition to the instructions in the last of which, Paré had already published in his youth the first and one of the most original of his essays, his treatise on Gun-shot Wounds. The works of Hippocrates, of Galen, of Paulus, and of other ancient writers, it is true, had of late been much in vogue among the schoolmen; but their counsels had as yet never been fairly put to the test by every-day practitioners. Italy, Germany, and France, had already used their efforts for this purpose unsuccessfully. Paré, after forty years of labor and renown as a practitioner, succeeded in giving to these ancients the authority they deserved, by supporting them with his own. By him, and by him alone, says M. Malgaigne, was Hippocratic surgery implanted in France, afterward to extend to Flanders, to England, and even to Germany, in which last-named country it had to struggle against the doctrines of Paracelsus. The labors of Paré would also have had their influence in Italy, had not a rival fully worthy of him soon afterward arisen there, in the person of Fabricius ab Aquapendente.

In France, Paré was the chief of a brilliant school, formed mostly by his personal teaching and examples. But the genius which inspired the master failed to animate his followers; and two generations had scarcely passed, ere his lessons were lost upon them. Even the college of St. Côme, which owed much to his connection with it, and which, from an insignificant fraternity, had, after a struggle of three centuries, risen into consequence, and begun to look upon itself as in some degree the rival of the medical faculty of the university, found itself, soon after the death of Paré, unable to contend against internal disputations on the one hand, and the encroachments of the barber-surgeons on the other. It continued to decline until at length in 1655 the whole body, with the provost at the head of them, relinquished their dignity, formally petitioned for the privilege of opening shops and of practising as barbers. Turpitude unparalleled! exclaims M Malgaigne, and a climax worthy of their three centuries of despicable intrigues, profound ignorance, grovelling and contemptible selfishness! To the honor of French surgery, however, be it added, that a few such men as Mariceau and Dionis, protesting against this baseness, separated themselves forever from their unworthy colleagues: and still preserving their ancient title of *Chirurgien Juré*, they continued to devote themselves to science and the new philosophy, and to smooth the way for the brilliant advances of the eighteenth century, of which they proved themselves the worthy precursors.

But in returning to the volumes now before us, we have room for but little more than a mere enumeration of their contents. Nor is it necessary, at this late era, to enter either into a critical or analytical review of them. The professional memoirs, as published in the present edition, occupy twenty-seven distinct books; which have been arranged under the heads of Anatomy, Surgery, Obstetrics, Internal Medicine, Materia Medica, and Medical Jurisprudence; and to these are affixed, first, the author's celebrated apology, in reply to the criticisms of Gourmelon, including an account of his travels; and, lastly, a memoir on subjects of natural history, to which is appended his book on monsters.

The treatise on anatomy occupies the first four books. It long ranked, after the author's death, as a work of merit second only to that of his contemporary, Vesalius.

The thirteen following books are exclusively devoted to Surgery: Tumors in General; Tumors in Particular; Wounds in General; Wounds in Particular; Gun-shot Wounds; Contusions, Burns, and Gangrene; Ulcers, Fistulæ, and Hæmorrhoides; Bandages, Fractures, and Luxations; Surgical Operations, and some of the disorders requiring them; Venereal Diseases and accidents resulting from them; and the means of hiding or removing deformities, whether congenital or acquired. Many of these memoirs are wholly original, and all of them are illustrated and enriched with the results of the author's own experience.

The eighteenth and nineteenth books are devoted to obstetrics and to the history of monstrosities. The latter, of course, is filled with ridiculous absurdities that passed under the name of science at the time at which it was written.

The next five books are occupied with subjects more strictly medical, as Fevers, Arthritic Disorders, Small-pox, Measles, Lepra, and Verminous diseases; Empoisoning and injuries inflicted by venomous and rabid animals, and the Plague; and to these are added a few memoirs on less important subjects.

The twenty-fifth and twenty-sixth books are taken up with Materia Medica and Pharmacy; and in the last, or twenty-seventh book, we have a treatise on Medical Jurisprudence—a branch of medical science which Paré may be said to have created.

The foregoing enumeration includes all his strictly professional works. The book of animals belongs to natural history; and it is now of no further use than to show the low state of general knowledge at the period when it was composed. The Apology and Travels, however, must be looked upon as one of the most interesting memoirs in the whole collection. It is written in a style peculiarly quaint, graphic, and agreeable. Its lets us fully into the habits and character of the author, and gives the circumstances connected with many of his most important improvements, discoveries, and triumphs in surgery. It has served, and may still serve, as a pattern for other memoirs on military surgery; it is the acknowledged prototype of those of Larrey. Finally, it was written during that period of life in which a little spice of garrulity, and of fondness for detailing the adventures of one's earlier years, is no longer disagreeable; for Paré lived to an advanced age, and this was the last of his productions.

Before closing this hasty notice, we would take occasion to congratulate the professional brethren on what appears to be a growing taste for consulting the writings of the earlier fathers of medicine and surgical science; among whom, after the lapse of three centuries, we may well be allowed to place the present author. There was a time during which more deference was paid to the opinions of the older writers than to nature and observation; and this was due, perhaps, to the fact, that the men of those days lived during the infancy of modern science, and had not as yet the ability, or at least were unprepared, to interrogate nature for themselves. To this period succeeded a long interval of neglect toward ancient authority, arising partly from the circumstance that men were now prepared to observe for themselves, and partly from discovering that in the works of these fathers, there was as much to reject as to confirm by their own experience. A better age we trust is now at hand, when with a just appreciation of the advantages of personal observation, as well as of the superior merits of many of our modern writers, we may nevertheless find time and inclination to trace alleged discussions to their fountain-head; to give the ancients credit for all the truths they have taught us, and for all that we can find in them of what is currently passing for modern innovation. With an insight into what has already been effected or attempted, we may be enabled to check the too prurient desire of almost every tyro in the profession, to strike off into some new line of what he calls his own, either in practice or in the fabrication of instruments, or in imagined improvements; many of which a little research would have shown him to have been, perhaps more than once already, attempted and rejected.

There is now in progress a new edition of the works of Hippocrates, with a French translation, by M. Littre; and Malgaigne has promised us a series, which will include most of the Arabic and Arabistic authors. The re-appearance of these old works, many of which, especially in this country, are so rare as to be almost inaccessible, will confer an absolute boon upon us. It will furnish the materials for much useful and agreeable reflection; and it may be the means of saving for the pockets of some of our needy brethren the heavy tribute they are annually paying into the patent-office. J. W.

Art. X.—*Transactions of the Medical Society of the State of New York.* Vols. 5. from 1832 to 1843. 8vo. pp. 2143. Published by order of the State Medical Society.

Although the origin of the *Art of Healing* is lost in the depths of an unrecorded antiquity, yet we know, as the preservation of health and the cure of diseases have always been objects of the highest importance, that it must, in every age and country, have been cultivated with more or less success. Le Clerc, indeed, discusses with no little ingenuity the question, "*si la Médecine est venue immediatement de* Dieu?"—whether the science of Medicine is a direct emanation from Heaven? He seems, at all events, to have traced the practice of Medicine in its several branches to the days of our first parents, inasmuch as he comes to the conclusion that Adam must of necessity have been the first Physician, Surgeon, and Accoucheur. That the proficients in this art and science have always been much sought after and honored, is proved by the Bible as well as by Homer; and even among our wild, uncultivated Aboriginals, the "medicine-man" holds a high rank, and is revered as a sacred personage. In view of this high importance of the Healing Art to the dearest interests of man's social relations, it has been, from the earliest times, encouraged and controlled by governmental regulations.

Considering the subject in this light, the State of New York has wisely regulated the practice of medicine by legal enactments, which are intended to secure to the community the services of competent practitioners, and to the latter that position and respectability in society which such qualifications may justly claim. Hence, the results must be mutually beneficial in proportion as these objects are attained, constituting by no means a monopoly in favor of the physician, but holding out a reward according to his deserts.

Now the structure of our medical laws is based upon associations for mutual improvement; and to reach this end, the institution of medical societies holds out the best prospect of success. Medical science consists of the deductions warranted by a vast aggregation of facts and observations relative to the animal economy in health and disease ; and all these facts and observations, before we can arrive at confident conclusions, must be so generalized as to present the results of *universal* experience. Independent of the experience of others, no practitioner, notwithstanding the possession of an intellect of the highest order and of a vast accumulation of the well-observed facts of a long life, can be considered equal to the recent graduate, with little experience, but who has availed himself of these advantages. Besides, it is due to his fellow-beings, on the score of humanity, that his knowledge should be imparted to the world ; for otherwise he would have lived in vain as regards all future time, the hoarded treasures of his god-like intellect perishing with his corruptible body.

Over the vast chaos of isolated facts which have accumulated for centuries in the records of medicine, some master-mind, applying the appropriate key of knowledge, has occasionally shed the light of beauty and order ; but it is seldom, indeed, that the book of nature is thus opened to our view, these numberless facts being unsusceptible of general application from the single circumstance that they possess no *uniformity.* It is only within quite recent years, that, by the application of the doctrine of averages, important relations have been disclosed discoverable in no other way. Although all researches connected with the laws of vitality are attended with many inherent difficulties, yet the application of the principle of the numerical mode of analysis, gives to medical inquiries the same character which pertains to statistical investigations on other subjects. Instead of being bewildered by contradictory conclusions, based on the few cases which fall under the observation of particular practitioners, we are enabled, by thus accumulating a vast aggregation of facts, extending through a series of years and over vast masses of individuals, to deduce the laws by which the operations of nature are controlled.

In medicine, as in every other science based on observation, all facts do not admit of generalization ; but this, instead of arising from their incapability of being so reduced, is perhaps entirely due to the imperfection of our knowledge. Hence, the records of medicine have always consisted of anomalies and inferences, blended with matters of fact and correct generalizations ; but in proportion as medicine advances as a science, must the former decrease and the latter increase, as a necessary consequence.

It is thus apparent that the personal observations of a single individual, cannot be of much avail in determining those laws by which the *opprobria medicorum* may be erased from the page of medical science. Toward the accomplishment of this grand object, no institutions known to our laws, save that of the Medical Bureau of the Army, possess greater facilities than well-organized medical associations; as, for instance, the State Medical Society of New York, composed of the County Medical Societies. After leaving the medical schools, practitioners, absorbed in the sober realities of *practice*, are too apt to sink into a state of unconcernedness as regards the advancement of the profession as a science; but as members of medical societies, the feelings of the ardent student are revived; and in proportion as we realize the insufficiency of our present knowledge, incitements will not be wanting to stimulate our exertions. In this associated capacity, much may thus be realized; while at the same time, social intercourse and friendly relations, instead of envy and personal hostility, which too often exist, will be materially promoted. Thus will the members of a liberal profession do justice to themselves by becoming more useful and respectable; and in proportion as the standard of medical character is elevated, must public esteem and confidence be secured.

Let us now make a few brief suggestions as regards the objects which should engage the attention of our medical societies, glancing, at the same time, at the contents of the 2143 pages before us.

In the annual history of every practitioner there must necessarily occur at least one case, that would be calculated to afford useful practical knowledge, or serve to illustrate an important principle. Now, if such a case were detailed by each member of a medical society, and made the subject of free remark in a friendly spirit, the result could not but prove highly useful,—useful in proportion as the impressions produced by such discussions are more deep and enduring, than those left by the simple perusal of the same case.

These societies, then, are accessible to the mass of the profession, their advantages being extended to the *operative* members, as distinguished more particularly from those who *teach and write, as well as work practically.* This exclusively *working* class, indeed, find here an ample field to display their peculiar qualifications. For example, as fashion is scarcely less imperious in medicine than in the cut of the garb of a Broadway *belle* or *beau*, so we find a remedy disused by one generation, which had been most highly vaunted by the preceding one; and again, new remedies are being constantly introduced to the notice of the profession, which are extolled, in the highest degree, by their discoverers. As the reputation of the latter, however, often prove evanescent, they are consequently always looked upon with distrust by the experienced practitioner; and hence the adoption of a truly valuable therapeutic agent, will often experience an indefinite postponement. Now, it is those who constitute the mass of all medical societies—practical physicians—who possess all the information requisite, by a free interchange of opinions, to determine the exact value of these newly proposed therapeutic means.

Let us now survey the general character, or rather complexion, of these volumes:

The contents of Vol. I., 1832–3, consist of the following papers:—1, A Prize Dissertation on Delirium Tremens, by Dr. J. C. Cross, of Kentucky; 2, Annual Address on Puerperal Fever, by Dr. J. Eights; 3, Medical Topographical Report of the County of Kings, by a Committee, consisting of Drs. Zabriskie, Garrison, and Fanning; 4, Requisitions for Graduation in the different Medical

Colleges, and Requisitions to Practise Physic and Surgery in the various States, etc., of the Union, by a Committee, consisting of Drs. T. R. Beck, Wendell, and Ludlow; 5, A Supplement to the last; 6, Annual Address on Asiatic Cholera, by Dr. Thomas Spencer; 7, Medical Topographical Account of the County of Saratoga, by Dr. E. Porter; 8, Report on Cholera made to the Governor, by Dr. L. C. Beck. There is also an Appendix to this volume of eighty-eight pages, comprising fifteen different subjects immediately connected with the interest of the State Medical Society; such as Laws of the State of New York, relative to the medical profession; System of Medical Ethics; Circular on a Medical Topographical Survey of the State, etc., etc. This last certainly had in view a most praiseworthy object, the design being to procure from every county medical society a topographical survey of the respective counties, which were to have been submitted to a committee of the state society, "charged with the duty of examining such reports, and of arranging the most interesting facts in them, and from the whole, to make a general report, containing a digested abstract, accompanied with a topographical map of the state." This was surely a noble project, and had it been since carried out in all its details, which are of too extended a nature to be here inserted, the results at this day would have been of incalculable importance, placing the medical profession of this state far above the *confrères* of all its sister states.

The contents of Vol. II., 1834-5, are as follows:—1, Annual Address on Dysentery, by Dr. T. Spencer; 2, Medical Topographical Report of the County of Columbia, by the Medical Society; 3, Medical Topographical Report of the County of Madison, by Dr. A. Foord; 4, Observations on the use of Cold Applications in local Inflammations, by Dr. C. Waldo; 5, On the use of Opium in Bowel Affections, by Dr. C. King; 6, On the utility of Iodine in cases of Ununited Fractures, by Dr. W. Willoughby; 7, Report relative to the Epidemic Cholera in the Auburn and Sing Sing State Prisons, by Drs. J. G. Morgan, and A. K. Hoffman; 8, Prize Dissertation on Typhus Fever, by Dr. A. Y. Magill, of Virginia; 9, The Physiology of Respiration and Chemistry of the Blood, applied to Epidemic Cholera, by Dr. B. F. Joslin; 10, Report on the Medical Botany of the town of Hamilton, Madison County, (Part I.) by Drs. J. S. Douglass, and J. Babcock; 11, Essay on Hygeia, by Dr. E. Porter; 12, Medical Topographical Report of the County of Onondaga, by the Medical Society; 13, Essay on Cholera, by Dr. J. R. Manley; 14, Essay on the History, Preparation, and Therapeutic Uses of Iodine, by Dr. S. J. Hobson. This volume has also an appendix of thirty pages.

The contents of Vol. III., 1836-7, comprise the following papers:—1, Annual Address on the Derangement of the Digestive Organs, by Dr. J. Steele; 2, Medical Topographical Report of the County of Tompkins, by the Medical Society; 3, Report of a Committee of the Society, (consisting of Drs. J. McCall, J. Eights, W. Bay, and T. R. Beck,) on the Varioloid, and the means of counteracting its Progress; 4, Annual Address on the Progress of Medicine in this State, by Dr. James M'Naughton; 5, On the Influence of Trades, Professions, and Occupations in the United States, in the production of Diseases, by Dr. B. W. M'Cready; 6, Medical Topography of the County of Tioga, by Dr. W. Bacon; 7, Memorial on the subject of Cholera, and the means of mitigating its violence, (addressed to the State Legislature,) by Dr. J.

R. Manley; 8, Observations on the Causes of the large proportion of Still-born Children in our large Cities over that of London, by Dr. S. W. Avery; 9, An Essay on Typhus Fever, by Dr. J. Fountain; 10, Directions for the Establishment and Government of a Lunatic Asylum, translated from the French, by Dr. E. Q. Sewell; 11, Physiological Explanation of the Beauty of Form, by Dr. B. F. Joslin; 12, Statistics of the Deaf and Dumb in the State of New York, the United States, and in various Countries of Europe, by Dr. T. R. Beck; 13, Statistics of the Blind in the United States, as ascertained by the census of 1830, by Dr. T. Romeyn Beck; 14, Observations on some of the Injurious Effects of the Secale Cornutum, by T. Chavasse, Esq., Surgeon, Birmingham, England. An appendix follows of thirty-six pages

Among the contents of Vol. IV., 1838-9-40, we find the following papers:—1, Annual Address on the Homœopathic System of Medicine, by Dr. J. M'Naughton; 2, Observations on Prolapsus Uteri, with reference to the Modus Operandi of Dr. Hull's Utero-Abdominal Supporter, by Dr. J. F. Gray; 3, Statistical Observations on the number of Blind in Pennsylvania, and the United States, by S. Hazard, Esq., of Philadelphia; 4, Annual Address on Quackery, by Dr. L. Hull; 5, Address before the Tompkins County Medical Society, on Spinal Diseases, by Dr. A. Church; 6, Address before the Tompkins County Medical Society, on Quackery, by Dr. A. Church; 7, Address before the Tompkins County Medical Society, on Medical Societies, by Dr. D D. Page; 8, Address before the Tompkins County Medical Society, on Observation, by Dr. D. D. Page; 9, Prof. Caspar on Suicide and its increase at the present day, translated from the German, by H. B. Webster; 10, Statistics of the Medical Colleges of the United States, by Dr. T. Romeyn Beck; 11, Annual Address on Improvements in Medicine, by Dr. L. Hull; 12, Report on Medical Education, by a Committee of the State Medical Society; 13, Prize Dissertation on Diseases of the Spinal Column, by Dr. N. S. Davis; 14, Address before the Chenango County Medical Society, on the Improvement of the Profession, by Dr. W. D. Purple; 15, Case of Sudden Death from Rupture of the Spermatic Vein, by Dr. J. M'Naughton. Appendix of 84 pages.

The contents of Vol. V. 1841-2-3, are as under:—1, Annual Address on Inflammatory Fever, by Dr. S. Ely; 2, Prize Dissertation on the Nervous System, by Dr. N. S. Davis; 3, Observations on Ergot, by Prof. J. B. Beck; 4, Observations on Aneurism, by Dr. P. Portal; 5, Address on Hereditary Diseases, before the Rensselaer County Medical Society, by Dr. Daniel Haynes; 6, Annual Address on American Medicine before the Revolution, by Prof. J. B. Beck; 7, Review of Marshall Hall's views on an Excito-Motory System of Nerves, by Dr. N. S. Davis; 8, Observations on the Signs of Live and Still-birth, by Prof. J. B. Beck; 9, Annual Address on Typhoid Fever, by Dr. W. Taylor; 10, Homœopathy Illustrated, by Dr. T. W. Blatchford; 11, Insanity, its Causes, Pathology, and Treatment, by Dr. C. B. Coventry; 12, Medical and Topographical Sketches of Binghampton, etc., by Dr. N. S. Davis. Appendix of 132 pages.

We have thus furnished a catalogue of the papers contained in these volumes, with the view of showing their general character. Many of them undoubtedly possess a full share of merit, and are peculiarly appropriate to the position in which they are found. Those on medico-topography pertain strictly to the investigations incumbent on medical societies; and we must here repeat our regret that the requisitions of the Circular, dated June, 1830, relative to a medico-topographical survey of the state, have never been complied with in the several details. In reference to meteorological observations, it is true, their absence here has been supplied by the reports of the Regents of the University; and as regards physical features, these too have been furnished by the recent geological surveys. Now, if accurate reports were annually made upon the endemic diseases of each county, much light might ultimately be thrown upon the subject, as respects the influence of climate, in connection with the modifications induced by clearing the forest and by difference of soil, upon diseases both *endemic and epidemic.* But there is one subject which has been almost entirely passed over in these papers, viz., *American medical botany*, which presents a fertile, and, at the same time, a comparatively unexplored field of inquiry, and one, too, that has the strongest claims upon our medical associations

Among other papers that we look upon as especially valuable and appropriate, are three by T. Romeyn Beck, M. D., viz., "Statistics of the Deaf and Dumb in the State of New York, the United States, and in various countries of Europe:" "Statistics of the Blind in the United States, as ascertained by the census of 1830:" and "Statistics of the Medical Colleges of the United States." And in the fifth and last volume, which, by the way, is the best among them, there are three papers by John B. Beck, M. D., to which we refer with particular pleasure, viz., "Observations on Ergot:" "Annual Address on American Medicine before the Revolution:" and "Observations on the Signs of Live and Still-birth." Dr. Davis's papers are also very good.

It is thus sufficiently obvious, in view of what has been already accomplished, that vastly much more may still be effected; for as every locality has its endemic diseases, which it is the duty of the physician, both as regards the public interest and the benefit of the profession generally, to investigate with all his powers of research, this subject alone, so inviting in its nature, takes away from every medical man all excuse for remaining one of the drones of the great professional hive. No local soil can claim the *plant of medical improvement* as indigenous; and in this respect, the soil of our own country is exceedingly fertile, asking only for the culture of this plant, the labors of its votaries.

"All may not," as Dr. Cowan observes, "have either the time or the courage that is necessary for statistical analysis, but each would reap much practical convenience from the daily registration of cases, and by collecting materials which the diligence of others might afterwards explore and fructify. * * Were sound practical men, instead of descending in silence to the tomb, to leave behind them the details of the forms of remedies on which they have principally relied, and a brief reference to the diseases most benefitted by their use, more good would result to the healing art than by any other method we are aware of; and the conclusions deducible from such extensive and concurrent testimony, would be practically sounder and more worthy of confidence than those arrived at by the solitary efforts of even the most gifted and accurate observers."

Art. XI.—*Medical and Physiological Commentaries.* By Martyn Paine, M.D., A.M. New York and London: 1840. 2 vols. 8vo., pp. 1531.

Essays on the Philosophy of Vitality, as contradistinguished from Chemical and Mechanical Philosophy, and on the Modus Operandi of Remedial Agents. By Martyn Paine, A.M., M.D., Prof. of the Institutes of Medicine and Materia Medica in the Medical Department of the University of New York; Member of the Verein für Heilkunde in Preussen, etc. New York: 1842. 8vo., pp. 70.

Adhering, as we do, to the school of vitalists, as contradistinguished from those who regard the human organization as a "*chemical laboratory*," we took decided ground, in our previous Number, when noticing the able "*Critique on Liebig's Animal Chemistry*," by Professor Caldwell. We then expressed an intention to resume the consideration of this subject in reference to the same "Critique;" but, as that design will be carried out hereafter by one peculiarly competent, we now propose taking a glance at the writings of Dr. Paine, so far as the doctrines of vitality are concerned.

Dr. P., it will be seen, in fact anticipates the whole chemical theory of Liebig, as set forth in his Animal Chemistry. This he does not only in his "*Essay on Vitality*," in which he controverts some of the German professor's opinions, advanced in the "*Organic Chemistry applied to Agriculture*," but likewise in his "*Medical and Physiological Commentaries*," published before the appearance of either of Liebig's works.

We admire the mottoes prefixed to the Essay on Vitality; and among these, we would quote the two following:

> "We must never forget that it is *principles*, not phenomena, *laws*, not insulated independent facts, which are the objects of inquiry.—Herschell's *Discourse*, &c., p. 13.
>
> "A single just principle in our science will lead to more truth, in one year, than whole volumes of uncombined facts will do in a century."—Rush. *Medical Inquiries*, vol. IV. p. 43.

It is this feature, indeed, that characterizes all Dr. Paine's writings, ever preferring the illustration of principles in the generalization of facts to the mere accumulation of disconnected details. Regarding the doctrines of vitality as contradistinguished from those which respect inorganic nature, as lying at the foundation of all medical philosophy, as well as of all practical medicine, he carries out in this "Essay" the illustration of an important and fundamental principle, previously brought under notice in his "Commentaries," viz., "*a deduction of the doctrines of the vitalists from the phenomena that attend the development of the incubated egg.*"

> "It is also," he says, "one of my present objects to extend the application of the foregoing principle, and to consider—
>
> 1st. The constitutional nature of the ovum.
>
> 2d. To show farther by the philosophy of generation, and by the nature of the powers which are universally admitted to be alone concerned in developing the germ or ovum, and in forming the organs of the new being, that the *same* powers are, also, *alone* concerned in carrying on forever afterwards the processes of life, and, of course, that no new powers, or principles, are introduced.
>
> 3d. To consider the manner in which the germ is impregnated, or its vital

properties so stimulated into action, as to result in the development of the germ, and in unfolding the various attributes of the new being.

"4th. To show that we may find in the physiology of generation, or the principles through which the ovum is impregnated, the whole philosophy of organic life, or the principles through which the actions of life are forever carried on.

"5th. To state the manner in which the natural peculiarities of each parent, whether as it respects the properties of life, or the physical conformation, are infused into the germ and combined in the full-grown offspring.

"6th. To show that hereditary diseases are transmitted in the same way as those more natural peculiarities which belong to parents.

"7th. To show, also, that the principles which are concerned in the transmission of hereditary diseases are the same as concur in the production of ordinary diseases.

"8th. To deduce from the philosophy of generation the vital nature of hereditary diseases; or, in other words, to show that the morbid impression is established upon the vital properties of the ovum, and of course, upon those of the new being; and that the hereditary vitiation does not consist in any transmitted impurity to the blood or other fluids of the offspring, as is now supposed by the humoralists, and the fallacy of which I have endeavored to establish in my Essay on the 'Humoral Pathology.'

"In considering the questions before us, we are but employed in tracing nature into one of her thousand labyrinths, whose exploration only requires us to avoid speculation and take nature for our guide; and here it must be our first object to interrogate her as to the constitution of the ovum, that we may ascertain by what powers its development is accomplished. At this elementary step of our being, no philosophical mind can doubt that all the component parts of organic beings are wholly different from the ordinary combinations of chemistry, and, therefore, that they are effected by powers with which chemistry has no connection. Such being granted, analogy does the rest for the whole organic fabric." (*Essay* p. 11.)

Without following our author in his ingenious train of reasoning, we must be content to present the following beautiful argument:

"Such, then, is the history of the development of the germ in birds, and in all the higher animals; and the whole work is ascribed by physiologists of every denomination exclusively to principles unknown in the inorganic world, and wholly distinct from any of a chemical nature. They are called, indiscriminately, vital properties, vital powers, vital principle, organic force, creative force, &c., terms, as we have just seen, employed either by Professor Müller or Dr. Roget or Carpenter, to distinguish the principle, or properties, from every thing that has any known existence in inorganic substances, or as the source of any inorganic results. But, physiologists of the chemical school stop here, and ascribe all organic compounds after the being is fully formed to chemical agencies. It is remarkable, however, that it has not occurred to these philosophers, that precisely the same elementary combinations, the same formation into tissues, and the same secretions take place at all stages of the elementary development as at all future periods of life, and that the rudimentary development consists in those formations of simple compounds and their union into tissues; and if the early or rudimentary growth of the being, all its secreted products, all its elementary combinations, be determined by the vital properties, so are the *same* results determined by the same properties or powers forever afterwards. To call in the agency of chemical or physical forces, to accomplish *precisely* the same results at any future stage of the organic being as are admitted to be performed in the development of the 'essential parts' of that being by the vital principle or vital properties alone, is not only a violation of the plainest rule in philosophy, but of the clearest facts.

"We have thus before us a peculiar order of powers by which the organic being is developed, fashioned, and forever exclusively governed. It is these powers, about which physiology, pathology, and therapeutics, are essentially concerned. We may, therefore, seek in the composition of organic beings, and in the laws of their development, for the whole rudimentary principles of medicine. The vital principle has also the extraordinary task of laying out, in the ovum, the whole organization of the future being,—so that its subsequent labor must be comparatively simple; and it is then, least of all, that it can require any help from the forces of the inorganic kingdom, or that it would permit a violation of the great principle in nature, of avoiding an unnecessary multiplication of causes.

"It may be farther shown, by the incipient development of the ovum, that the vital powers, or properties, are more concerned in the growth, nutrition, and all the subsequent physical results, throughout the whole existence of the being, than is generally supposed by even the exclusive vitalists. The usual supposition is that the vessels or instruments of action, which are moved by the vital powers, perform the work of decomposing the blood and other parts, and recombining them again in other proportions and forms, according to the particular organization of parts, and the modification of their vital states.* But according to all physiologists, the ovum, in its germinating part, is a mere organic fluid, destitute of vessels, and all other physical parts of the future apparatus.

"'That the form,' says Müller, 'of the organic matter does not determine originally the mode of its action, is proven indisputably by the fact, that the matter from which all animal forms are produced, are at first almost without form.' 'The germ is a round disk of simple animal matter,' &c."

"The first 'assimulation of new matter,' therefore, must take place without the agency of vessels, or any of the parts which are subsequently formed; and therefore, the same powers which converted the fluid germ into vessels, nerves, &c., continue to make the same conversions out of blood; and as all this was originally done without the aid of vessels, so must the same process be forever carried on without their *direct* agency. Nothing in mathematics can be more certain, and nothing, therefore, is more incontrovertible. (*See the last note.*)

By the same rule it may be at once shown that the only ingenious chemical hypothesis ever invented to interpret organic results,—the *catalytic*,—is purely an assumption; since this hypothesis is predicated of the blood vessels. But, there being no vessels in the germ, the first vessels must, of course, be produced without the supposed chemical influence of vessels, and by my showing, therefore, as to the subsequent formation of vessels and other parts, the supposed agency of catalytic forces is a mere assumption. (*See Med. and Phys. Commen.*, vol. 1, p. 74–76.)

"By thus reducing this question, which is apparently surrounded with difficulties, after the animal acquires its complex structure, to its simple elements, the obscurities disappear; since what is true of the development of the germ must be equally true of the *same* processes and results in after life.

"The question then arises as to what is the particular office of those vessels where the elementary combinations and decompositions take place? Simply this, to convey and eliminate through the agencies of the vital properties, those parts from the blood out of which the vital properties effect the new elementary combinations, whether solid or fluid,—to aid in arranging the new molecules, — or to carry forward those fluid products which may be destined for other ends.

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* It is affirmed, however, by a very eminent chemical physiologist that—

"The most determined skeptic cannot assert that there is any necessary relation, or, indeed, *any relation whatever*, between the mechanical arrangements and the chemical properties to which they administer. There is *no reason* why the chemical changes of organization should result from the mechanical arrangements, by which they are accomplished [;] neither is there the *slighest reason* why *the mechanical arrangements*, in the formation of organized bodies, *should lead to the chemical changes of which they are the instruments*." !—'*Dr. Prout. Bridgewater Treatise, ch.* 4.' Such is the proof which chemistry offers.

> "But have not the nerves an indispensable agency in effecting the elementary combinations and decompositions? Certainly not, for the reasons which I have now stated in relation to the vessels; and this induction concurs with all other facts, and overthrows the hypothesis that the nerves are conductors of galvanism, and, therefore, the supposed agency of this fluid in the processes of life."—P. 18.

There is something truly happy in the idea that the germ possesses "a creative force," by which new matter from without is assimilated; and as this germ in all animals, so far as is known, is, according to Müller, "a round disk of simple matter, having no difference of form corresponding to the difference of animals," it follows necessarily that nature, from apparently the same germinal elements, elaborates all the varieties of organic life. Moreover, as the process of generation results in the production of organic beings similar to those which exercise the generative faculty, we have a still further illustration of the peculiarities of the vital properties. That a special influence is exerted by the semen of the male upon the living properties of the germ, is evident in the resemblance borne by the offspring to the male parent; and this is still further demonstrated in the transmission of the peculiarities of the male, in the instance of the production of animal hybrids. And here Dr. Paine introduces a fact equally extraordinary and interesting:

> "The well-known fact, that when the Earl of Morton's Arabian mare was covered by the quagga, not only did the mule so begotten partake of the character of the sire, but when the mare was subsequently submitted to an Arabian stallion, by whom she had three foals at different times, the first two continued to exhibit some of the distinctive peculiarities of the quagga conjoined with the characters of the Arabian breed."—(MONTGOMERY, *on the Signs and Symptoms of Pregnancy*, p. 17. London, 1837.)

This phenomenon can of course find an explanation only in the supposition that the semen "may influence several ova, and so continue to manifest its effects in the offspring of subsequent conceptions when impregnation has been effected" by males of a different species.

Thus, too, must be explained the transmission of hereditary diseases on the part of the male; and if so, we have here a key, in the beginning of individual existence, to the whole philosophy of disease, as well as to that of physiology.

> "The type of all this may be found in the impregnated ovum. The properties which animate the germ *before* conception are entirely determined by the vital constitution of the female parent. But we have seen that the new being may partake of the physical characters of the male as well as of the female, and it not unfrequently happens that the characteristics of the male are predominant. Hence it follows that the semen so far establishes changes in the original constitution of the vital properties of the germ.
>
> "Since, therefore, all the fœtal developments, and all their physical peculiarities, depend upon the precise modifications and actions of the vital properties, and since these properties in the unimpregnated ovum are entirely determined by the female parent, their nature after impregnation must be more or less affected, and assimulated to the peculiar nature of the male parent, in all the cases where the offspring manifests any of the male characteristics. This is entirely analogous, in principle, to the modifications which are produced in the properties of life by morbific causes, but with this difference in

> contingencies. In the case of the impregnated ovum, the modifications are permanently established, and can never be altered, so far as the vital properties, in either parent, upon which the modifications depend, are fundamental in their nature. In the case of the morbific agent, or the cause of disease, the vital properties are diverted from the healthy state, and from *such* modified conditions they commonly possess the ability of escape, and of returning again to their natural standard. In the case of the impregnated ovum, a modifying agent operates, whose properties are intended to confer on the new being a stable condition, however they may modify the exact constitution of the impregnated germ. This vital stimulus, the semen, therefore, in virtue of its specific properties bestows upon the corresponding vital properties of the ovum the peculiarities which belong to itself; and these being natural, vital, and determinate, the transmitted peculiarities should be equally so. In the case of disease, however, the morbific agents have none of the properties of life which are natural to the fecundating semen, and the modifications, therefore, which they may determine may be different, even if we suppose them to act, as in the case of the germ, upon the whole constitution. Whatever modifications, therefore, may arise from their action, they must consist of deviations from the standard of health. But it does not necessarily follow that certain artificial modifications may not be as permanent as the natural ones; and it is from observation alone, that we learn that they are so."—P. 26.

In this manner it would appear that hereditary diseases are propagated from the male; and, in some instances, so great is this natural diathesis, that tubercles have been found deposited in the lungs even of the still-born infant.

Now, would Liebig thus create an animal in the laboratory? He claims at least that "*by chemical agency we can produce the constituents of muscular fibre, skin, and hair!*"

Dr. P., as we conceive, has thus successfully shown that the development of the germ, in all the higher order of animals, is the result of principles wholly unknown in the inorganic world, and equally distinct from any of a chemical nature; and, on the contrary, as these phenomena are the products of a vital principle, it follows that he is fully warranted in the conclusion, that what is true of the development of the germ, "its conversion into its vessels, nerves, &c., must be equally true of the same processes and results in after life."

The nature of this vital or organic principle will, no doubt, forever remain one of the most hidden arcana of creative wisdom. We have here arrived at an ultimate fact; and until organic chemistry shall *at least* teach Liebig to detect in the atmosphere the cause of variola or of influenza, or to discover a difference between a watery solution of gum Arabic and the poisonous fluid of a serpent, which last chemical analysis proves to be the same, it were worse than idle to attempt the discussion of the far more recondite question of the nature of the vital principle.

> "We need not inquire," says Dr. P., "into the nature of the nervous power, or of the organic properties. It would be as absurd as to interrogate the nature of gravitation, or of any other property of mere matter, or even of matter itself; though we may well say what the nervous and organic powers *are not*, and thus save much speculation and its resulting practice. We know enough of the whole, for all the purposes of philosophy, and for the good of mankind, by the phenomena alone; but since the phenomena of organic beings are far more diversified than those which relate to inorganic matter, so, also, should we be as contented with the former as with the latter, and apply them in the same philosophical and practical manner. We also know enough of physics to marvel at nothing in organic beings which may be utterly different from the con-

stitution, the phenomena, and the laws of inorganic matter; and if it seem mysterious that such an agent should exist as the nervous power, with the characteristics which I have here assigned, it will become less wonderful when we reflect upon the phenomena of the immaterial mind in its connection with organization, as in voluntary motion, blushing, palpitation, syncope, apoplexy, &c., or even upon the velocity of light and the unconceivable rapidity of its undulations, and, above all, that it is not an improbable doctrine, that the light, heat, and deoxydizing property of the solar beam, reside in a common principle, and are due to modifications of that principle by foreign influences. So, also, in respect to the modified developments of the common agent upon which the phenomena or electricity and galvanism depend."—P. 50.

These same doctrines pervade the whole of the "Medical and Physiological Commentaries." Indeed, we may say that they stand forth boldly on every one of the fifteen hundred and thirty-one well-filled pages. In volume I., the first section consists of one hundred and twenty pages on the "*Vital Powers.*" Section II., on the "*Philosophy of Blood-letting*," containing two hundred and sixty-two pages, is also designed "to reflect some light upon the nature of the *vital forces*, which we have just considered—since we have endeavored to show that the effects of blood-letting are wholly incapable of explanation upon any principles in physics." Section III., comprising three hundred and thirty-two pages upon the "*Humoral Pathology*," opens thus—"Having hitherto investigated the character of the *forces and actions of life*, we are better prepared for considering the important subject of the humoral pathology." Volume II. opens with a section of seventy-eight pages on "*Animal Heat*," which ought to be a terror to all chemico-physiologists. Next follows the "*Philosophy of Digestion*," treated in sixty-two pages; and here we cannot refrain, seeing that this process is almost by common consent consigned to the laboratory, from laying before our readers several of the first paragraphs on this subject:

"Having hitherto seen that the various processes of life, and all their results, whether healthy or morbid, with the single exception of digestion, depend exclusively upon powers which have no analogies in the inorganic world, but with which they hold an absolute hostility, we might safely conclude that the same powers are equally concerned in the initiatory step which prepares the material for all their subsequent operations. Yet, is this especially the ground upon which chemistry has reared its batteries, and from which it sends forth its artillery into the various dominions of the organic world. Yet, is it here, that vitality is exemplified in its most impressive and astonishing aspects, and where unequivocal demonstrations abound, that fluids, as well as solids, are endowed with the principles of vital operations. Finally, it is here, especially, that nature has illustrated her distinction between the animate and the inanimate world, and established her chain of connection.

"The chemical doctrine is thus laid down by one of the most able and illustrious in the field of science. It has also the merit of being set forth to illustrate 'the Power and Wisdom of God.'

"'1st. The stomach,' says Dr. Prout, 'has the power of dissolving alimentary substances, or, at least, of bringing them to a semi-fluid state. This operation seems to be altogether chemical.

"'2d. The stomach has, within certain limits, the power of changing into one another, the simple alimentary principles;' and 'this part of the operation of the stomach, appears, like the reducing process, to be chemical; but not *so easy of accomplishment.* It may be termed the *converting* operation of the stomach.

"'3d. The stomach must have, within certain limits, the power of *organizing* and *vitalizing* the different alimentary substances.' 'It is impossible to imagine, that this organizing agency of the stomach can be chemical. *The agency is vital, and its nature is completely unknown.*' "*

"We would first inquire, although not very relative to our subject, how the foregoing account of the process of digestion enlarges our views of the 'Power and Wisdom of God,' any more than the ordinary process of putrefaction? Nor is this at all an extravagant comparison; for it has been seriously affirmed by the chemists, that the putrefactiun of a muscle results in a substance resembling chyme.† It is certainly true, also, that the same Power was necessary to establish those agents upon which putrefaction depends, as the more exalted powers of life; and the same Omnipotence is as positively manifested in an insect as in man. But the finite comprehension of the human mind is just as much enlightened as to the Power of Omnipotence by the contemplation of an ascending series of principles upon which the various phenomena of nature depend, as by tracing the analogous illustrations of Power from the simplest elements of matter up to the most perfect of sensible existences. It appears to us, indeed, that it is rather the laws, than the mechanism of nature, which most excite our adoration of its Author. There is more to admire in the operation of the principles which unite into atmospheric air and nitric acid the elements of which they are composed, than in the elements or the combinations themselves,—more in 'the music of the spheres' than in the vast sublimity of the individual objects,—more in the powers which carry on the functions of organized matter, than in the organization itself. What were nature without its animation? But this is nothing more than an emanation, in connection with matter, from the forces which we are considering."--Vol. II. p. 80.

The next section is on "*The Theories of Inflammation*," containing seventy-four pages; and here again we would present to our readers a word or two of the introduction, in illustration of Dr. Paine's staunch advocacy of the doctrines of vitalism:

"It is usual, at least with many, to begin the consideration of the theory of inflammation with an account of the blood-vessels, the circulation of the blood, and other anatomical facts, and to bring up the preface with a multitude of experiments where nature may be seen in her most artificial aspects; but, most of all, with microscopical explorations. To the latter, under the auspices of the physical theories of life, are owing, mainly, the mechanical doctrines of inflammation. Since the time of Hunter and Bichat, we hear but little about the philosophy which relates to the vital powers, either in the processes of disease, or in the healthy actions of the system. Consequently, the inquiry is apt to terminate in the simplicity of physical results.

"The human organization is either regarded as 'a chemical laboratory,' or, 'our philosophy would teach us that there is but little difference between a man and a sieve.' The mechanism is considered the agent itself; while the invisible existence which truly presides over all the movements of life, and whose phenomena are so multifarious as to defy enumeration, and which no other power can resolve, is ridiculed as a creation of fancy, because, like the more sensible parts, it is not a subject for the scalpel or the microscope. (See Vol. I. pp. 11, 33, 36, 75, &c.)

"In prosecuting our inquiry, we shall be content with the knowledge that the process of inflammation is conducted by blood-vessels and other inscrutably organized instruments; but most of all, that these instruments are actuated in all their movements and results by powers which have no analogies in inorganic matter. And were it our specific purpose to construct a theory of inflammation, we would take especially the vital phenomena as the basis. To these we would make the physical appearances subordinate; yielding their aid where susceptible of interpretation by our standard of life."—Vol. II. p. 141.

"* Chemistry, Meteorology, and the Function of Digestion, considered with reference to Natural Theology. b. iii. c. 3.

"† Dr. Davy, ut cit."

Lastly, we have a section of not less than four hundred and twenty-six pages on the "*Philosophy of Venous Congestion,*" which is thus introduced to the reader:

> "We have reserved for this place the important subject of Venous Congestion, that we might have all the advantage of any light that may be reflected by the examination which we have bestowed upon the natural and modified powers and actions of life in our preceding investigations.
>
> "We have hitherto seen that it is the prevailing disposition of the age to refer the phenomena of organized beings, whether in health or disease, to the agencies of chemical or mechanical powers; but most of all to the former. This error, as we have endeavored to show, has its deep foundation in confounding the vital with the properties of dead matter, and in yielding the senses to the illusions of the microscope, or to mistaken analogies in chemical science. Mechanics have been largely introduced 'to circulate the blood,' and in some diseases, as in inflammation and its consequences, it is the principal fulcrum. But we now approach an affection in which we lose sight of chemistry, and all vital agencies, and surrender the science of life to an unadulterated mechanical philosophy. Here we have 'nothing but stagnation,' (p. 145, *note,*) and the modus operandi of all our remedies is construed upon physical principles."—Vol. II. p. 216.

This volume concludes with two other essays, making one hundred and seventy-five pages, the one entitled "*Comparative Merits of the Hippocratic and Anatomical Schools,*" and the other, "*On the principal Writings of P. Ch. A. Louis, M.D. etc.*"

We have thus accomplished two objects,—the one was to show that the author of this work fairly stands at the head of the school of vitalists, and the other was to lay before our readers a general view of the contents of the "*Medical and Physiological Commentaries.*" Let it not be thought, because we say nothing in condemnation of this work, that we have never read the "British and Foreign Medical Review." Notwithstanding the harsh criticisms with which it has been visited, we hesitate not to say, that as a book of erudite and extensive research, clothed in language beautiful and precise, it will bear most favorable comparison with the medical writings of any age or country.

On page 391 of volume I.; there occurs the following paragraph, which, judging from the sensation produced on ourselves, cannot fail to make even a Stoic smile:

> "We certainly do not intend to review the reviewers. This, we admit, would be indecorous, and beyond our province, since it is conceded that they possess a 'final jurisdiction.' Besides, we are single-handed, and have nothing but facts for our weapons. The contest, therefore, would be manifestly unequal; and being so, we have long since made up our minds 'that discretion is the better part of valor.'"

Now, kind reader, to whom do you suppose that this remark refers? To the "*British and Foreign Medical Review,*" edited by JOHN FORBES, M.D., etc.!!

We will conclude by giving one extract more from our author's "*Philosophy of Animal Heat:*"

> "It is our purpose to examine the connection of respiration with animal heat, and to show its essential dependence on other causes by the experiments of chemical philosophers. We shall endeavor to sustain the conclusions of Hunter and Bichat, although we see much to admire in the ingenious observations of those who depart from the doctrine of the vitalists. But, it is the ingenuity

of mind, not its adherence to nature, which imparts, in our estimation, the merit that may belong to other hypotheses. And here their advocates have an apparent intellectual superiority over others who are alone concerned in forming their deductions from the phenomena of nature. The proofs, which the latter enjoy, are so plain and intelligible, that one seems scarcely deserving praise who does but follow their indications. And this, we apprehend, is one reason why so little respect is now paid by many to the system of nature as expounded by Hippocrates, Bacon, Sydenham, Hunter, Bichat, and other kindred spirits. On the contrary, however, artificial hypotheses, to be at all plausible, often require the highest efforts of genius; and this is at once conspicuous in the management of facts, and the arrangement of assumptions, so that they shall borrow, as it were, a light from the facts. We have only to adduce the subject before us in illustration of our principle. To have inferred the dependence of animal heat upon vital actions from the plain phenomena of life, from the analogies supplied by all other formations of the body, from the forces upon which it depends resisting all those causes which extinguish heat in inorganic matter, and from a like coincidence in respect to the operation of all chemical and physical forces upon the living organism, would constitute but little merit, compared with that complex system by which the chemical doctrine has found its way to popular favor. Just so it is with the more extended plan of subverting the most sublime department of nature, where every thing is carried on by forces unknown in the inorganic world, and of substituting the laws of that world from which the former appears so remarkably exempt. The chemical hypothesis of respiration is only a part of the great plan of subversion: that of digestion is another; in a word, the spontaneous generation of animals sums up the whole. Who could acquire any eclat by simply maintaining that the gastric juice performs digestion in virtue of its vital forces, and thus, also, bestows the first act of vitalization; that the vessels then take up and complete the work of animalization; that the secretions depend upon the same forces, and so on? On the other hand, however, it requires a power not inferior to that of the Creator Himself, to bring about a single one of the foregoing results by the agency of the chemical or any other physical forces. The temptation, therefore, is very great to wander from the luminous path of nature, But when this path shall have become universally abandoned, as at former eras, he will receive and deserve the greatest meed of praise, who, like Bacon, shall restore the Hippocratic method of induction. At present, however, there are some, who, it seems to us, adhere with great tenacity to the path of nature; and, until this is lost, the discovery of which we speak cannot, of course, happen; and when it comes, there will he but few to enjoy the honor. But, when the light shall have once more been diffused, and great principles again established, and new avenues to honor must be struck out,—and seeing, also, that our chemical hypotheses of life will be as unprofitable to our successors as alchymy to us, what new systems may be invented, we will scarcely presume to foretel. All that we can say of them is, they will make a great noise in the world, will triumph for awhile, and again have their exit. *Sic ibimus, ibitis, ibunt.* It is plain, therefore, should the rest of the world endure as long as it has hitherto, according to the geologists, there will only be now and then one whose name will be imperishable. Or, if, like Paracelsus, and others not to be named, a straggler should gain a niche, he will be rather cast there by the eccentricity of his orbit, than by any of those movements that are at all subject to calculation. "*Sic itur ad astra.*"—Vol. II. p. 12.

In one sentence of this extract—"*All that we can say of them is, they will make a great noise in the world, will triumph for a while, and again have their exit*"—our author seems to have been gifted with the ken of prophecy. He appears to have viewed in prophetic vision—"*Organic Chemistry in its Application to Physiology and Pathology.*"

Should our readers regard this article, as well as the one in the last Number on "*Physiology Vindicated,*" as a declaration of war against

Liebig, they may find us in the next Number actually "carrying the war into Africa."

We look upon Dr Paine as the prince of vitalists, and we will say of him, in good faith, as the braggart Paracelsus said of himself:

> "Get behind me, Avicenna, Galen, Rhazes, Mesuc, Montagnana! behind me, Doctors of Paris, Montpelier, Suabia, Cologne, Misnia, and Vienna! You, Islands of the Sea! Thou, Italy; thou, Athens; thou, Greek; thou, Arab; thou, Israelite!—behind me! FOR THE MONARCHY IS MINE!"

Art. XII.—*A Treatise on Food and Diet, with Observations on the Dietetical Regimen suited for the disordered states of the Digestive Organs; and an Account of the Dietaries of some of the principal Metropolitan and other Establishments for Paupers, Lunatics, Criminals, Children, the Sick, etc.* By Jonathan Pereira, M.D., F.R.S., and L.S., Licentiate of the Royal College of Physicians in London, etc., etc. Edited by Charles A. Lee, M.D. New York: J. & H. G. Langley, 57 Chatham street. 1843. 8vo. pp. 325.

This work, which exhibits a detailed and individual account of alimentary substances, is one whose merits, both as regards its immediate practical utility and its general character in the way of elaborate research, cannot fail to gain it a place not only in the library of the physician and general scholar, but upon the counter of the apothecary,—ay, and even upon the shelf of the kitchen.

This treatise on Diet possesses certain merits unknown to its predecessors, to some of which reference may here be made. The subject of the chemical elements of food, upon which much light has been thrown by the recent investigations of Liebig, Boussingault, and Dumas, has been quite fully treated; and this is a feature which is quite novel, all preceding dietetical writers having passed it over altogether, or at most alluded to it only incidentally. Another peculiarity is found in the increased space devoted to the consideration of alimentary principles. A third peculiarity consists of the plan, adopted from Tiedemann, of treating separately *Alimentary Principles* and *Compound Aliments*, contrary to the arrangements of foods according to the proximate or immediate principle predominating in their composition. But as regards the further improvements in the mode of considering this subject, we will allow the author to speak for himself:

> "Such a classification [the arrangement of food last mentioned] is open," he says, "to the glaring and obvious objection, that most of the foods in ordinary use consist of several alimentary principles. Thus, *butchers' meat* consists of fibrine, albumen, gelatine, and fat; *bread*, of starch, gluten, gum and sugar; *milk*, of caseine, butter, and sugar. Now, to arrange meat among fibrinous, bread among starchy, and milk among caseous foods, is to overlook the other important constituents of these substances, and to give a very imperfect view of their alimentary properties.
>
> "The author did not venture, without considerable hesitaton and doubt as to its propriety, to deviate from Dr. Prout's beautifully simple and generally admitted classification of alimentary principles, into the *aqueous*, the *saccharine*, *albuminous*, and the *oleaginous*. After mature consideration, however, he satisfied himself of the impossibility of reducing all nutritive principles to these

four heads. Common salt, for example, which a recent writer* justly observes, 'can by no means be considered only as a luxury, but as a substance as essential to life as nitrogenous or non-nitrogenous food and water,' can be referred to no one of these four classes. Moreover, lemon juice, which constitutes one of our most valuable antiscorbutic foods, does not owe its efficiency to water, sugar, albumen, or oil. Furthermore, to call gum, starch, and acetic acid, *saccharine* substances,—gelatine an *albuminous* one,—or alcohol an *oleaginous* one, is to assign new meanings to common and familiar terms. Gelatine and albumen are not mutually convertible into each other by any known chemical process, nor can oil be transformed into alcohol, or, *vice versâ*, alcohol into oil. For these reasons, therefore, the author has ventured to adopt a new and enlarged arrangement of alimentary principles, which he now submits to the notice of his professional brethren.

"Considerable pains have been taken in the preparation of Tables representing the proportion of some of the chemical elements, and of the alimentary principles contained in different foods; and the author believes they will be found as complete and accurate as the present state of our knowledge admits.

"Another peculiar feature of this treatise is the chapter on Dietaries, which has been rendered necessary by the discussions which have been going on, for many months past, in the public journals and elsewhere, respecting the amount of food proper to be supplied to paupers, prisoners, and others. The subject has in this way forced itself on the attention of all grades of society; and professional men and others must have long felt the want of a work giving an account of the dietaries in use in the various Public Establishments in this country, as well as in the Navy and Army. The author greatly regrets that the necessarily limited extent of the present treatise has precluded him from entering into a variety of interesting details connected with this subject."

Upon the last subject—the chapter on *Dietaries*—we deem it quite unnecessary to dwell, as the reader will find a most excellent view of it among the original communications of this Number, furnished by Dr. Lee himself.

Dr. Lee, by the way, in a highly complimental letter from the truly distinguished author, who is never at a loss to discern true merit where it exists, requested him to make such additions as would render it better adapted to the peculiar wants of the American reader. But as the American editor has presented, in a very short preface, an admirable view of the claims that this work has upon public attention, we will of course lay it before the reader:

"In complying with the request of the Author of the following work, to make such additions as would better adapt it to the wants of the American reader, it was far from my design or expectation to extend my remarks so far, or to comment on such a variety of topics. The subject of 'food and diet' is, however, so extensive, embracing such a multitude of facts and not a little of theory, as to embarrass by its very copiousness,—so that the chief difficulty of one who enters upon this boundless field, is, to know where to begin, and when to stop. My object has been, chiefly, to notice those topics upon which additional information would, perhaps, be considered desirable by the American reader; and, while I left the text entire, to offer such brief comments as some reading and reflection would naturally suggest. This plan was also in accordance with the wishes of the publishers. Such notes, therefore, as have been added, will be found either at the bottom of the page, or in the Appendix.

"With respect to the merits of this treatise, it is scarcely necessary for me to speak. It fully meets a desideratum which modern discoveries, the improvements in practical and experimental physiology, and especially the late achievements in analytic chemistry, have created; and which, since the appearance of Liebig's remarkable works, every one must have felt could not long remain unsupplied. On perusal of these pages, the reader will doubtless agree with me in opinion, that the task could not have fallen into abler hands, as it certainly could not have been accomplished, in all respects, in a more satisfactory manner. The author, Mr. Pereira, is well known throughout Europe and America, as one of the most learned, scientific, and practical men of the age,—a physician of great experience and accurate observation,—a highly successful writer, unsurpassed in the judicious selection and arrangement of facts, and in the felicity of his illustrations and reasonings. To the medical profession especially, he is universally and most favorably known, as the author of the best work on the *Materia Medica* which has hitherto appeared in our language. With such rare qualifications, he could hardly fail in producing a most valuable treatise; and, as such, we commend it to the favorable consideration of the public, as no less adapted to inform the physician and man of science, than to interest and instruct the general reader."

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* *On Gravel, Calculus, and Gout,* by H. Bence Jones, M.A., p. 46, London 1842.

Part I. treats of Foods; and these the author classifies thus:

The substances employed by man as food consist of certain compound bodies, termed *Alimentary principles*, which, by their mixture or union, constitute our ordinary foods; these, for the sake of distinction, I shall denominate *Compound Aliments.*

Thus meat (a compound aliment) consists principally of fibrine, albumen, gelatine, hæmatosin, fat, and water, (alimentary principles.) Wheat (a compound aliment) is composed of starch, gluten, sugar, and gum, (alimentary principles.)

Alimentary principles are themselves compounded substances. They consist of two, three, four, or more, *simple* or *undecompounded bodies*, usually denominated *elements.* These are the *Chemical Elements*, or *Elementary Constituents of Food.*

Thus fibrine (an alimentary principle) is composed of carbon, hydrogen, nitrogen, oxygen, phosphorus, and sulphur, (chemical elements.) Gum (an alimentary principle) consists of carbon, hydrogen, and oxygen, (chemical elements.)

I propose, therefore, to consider successively—

1. The Chemical Elements of Foods.
2. Alimentary Principles.
3. Compound Aliments.

Of the Chemical Elements of Foods. Of the fifty-five bodies regarded as *simple* or *undecompounded*, only nineteen have been found in *Organized* or *Living Bodies.* The elementary substances—elementary because they have never been proved to be compound—are the following:

1. Carbon
2. Hydrogen
3. Oxygen
4. Nitrogen
5. Phosphorus
6. Sulphur
7. Silicon
8. Chlorine
9. Iodine
10. Bromine
11 Flourine
12. Potassium
13 Sodium
14 Calcium
15. Magnesium
16. Iron
17. Manganese
18. Aluminum
19. Copper?

Copper, Dr. Pereira thinks, is probably only an accidental constituent; while gold, lead, and arsenic, which have been declared to be constituents of organized bodies, he has not included in his catalogue.

"A living body," he says, "has no power of forming elements, or of converting one elementary substance into another; and it therefore follows that the elements of which the body of an animal is composed must be elements of its food.

"The essential constituents of the human body are thirteen; and the same, therefore, must be the elements of our food.

CHEMICAL ELEMENTS OF THE FOOD OF MAN.

1. Carbon
2. Hydrogen
3. Oxygen
4. Nitrogen
5. Phosphorus
6. Sulphur
7. Iron
8. Chlorine
9. Sodium
10. Calcium
11. Potassium
12. Magnesium
13. Flourine.

These substances are next noticed individually; and the amount of knowledge thus communicated,—knowledge, too, which is known to him only who has kept pace with the most recent extraordinary advances made in these departments of science,—is almost incredible; but, for a detail of these valuable facts and deductions, we are obliged to refer the reader to the volume itself.

In treating here of Carbon, notwithstanding an admirer of Liebig, Pereira is compelled to disagree with him in his ascription of the gluttony of certain nations to the coldness of climate exclusively:

“In the natural and healthy condition of the system, the food supplies the necessary carbon for the support of animal heat; but when food is withheld, the fat of the body is consumed, its carbon being converted into carbonic acid, its hydrogen into water. Experience has satisfactorily shown that the heat of the blood in health is the same in all climates and in all conditions of atmospheric temperature. Now it follows that a larger quantity of combustible matter is required in cold climates and cold weather, for keeping up this temperature, than in hot climates and warm weather; since a greater amount of heat must be given off to surrounding media in the former than in the latter. Hence the necessity for a more liberal supply of food in cold weather. ‘He who is well fed,’ observes Sir John Ross,[*] ‘resists cold better than the man who is stinted, while the starvation from cold follows but too soon a starvation in food. This, doubtless, explains in a great measure the resisting powers of the natives of these frozen climates; their consumption of food, it is familiar, being enormous, and often incredible.”[†] Moreover, it is obvious that the foods which, theoretically, appear to be best suited for the inhabitants of those colder climates, are those which contain the largest amount of carbon and hydrogen,

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“[*] *Narrative of a Second Voyage in Search of a Northwest Passage*, page 200. London, 1835.

“[†] Most persons are familiar with the accounts which have been published respecting the gormandizing powers of the natives of the Arctic regions. Captain Sir W. E. Parry (*Second Voyage for the Discovery of the Northwest Passage*, p. 413, London, 1824,) states that, as a matter of curiosity, he one day tried how much food an Esquimaux lad, scarcely full grown, would consume, if freely supplied. ‘The under mentioned articles were weighed before being given to him; he was twenty-four hours in getting through them, and certainly did not consider the quantity extraordinary:’

	lbs.	oz.	The fluids were in fair proportion, viz.	
Sea-horse flesh, hard frozen .	4	4		
ditto boiled . .	4	4	Rich gravy Soup, . . .	1 1-4 pint
Bread and bread-dust . . .	1	12	Raw spirits, ...	3 wine glasses
			Strong grog, ...	1 tumbler
Total . . .	10	4	Water	1 gallon 1 pint.

“Sir John Ross (*Narrative*, p. 448, 1835) says, that an Esquimaux ‘perhaps eats twenty pounds of flesh and oil’ daily.

“But the most marvellous account of gormandizing powers is that published by Captain Cochrane, (*Narrative of a Pedestrian Journey through Russia and Siberian Tartary*, vol. i. p. 255, 3d edit. 1825.) He says that the Russian Admiral Saritcheff was told that one of the Yakuti consumed in twenty-four hours ‘the hind-quarter of a large ox, twenty pounds of fat, and a proportionate quantity of melted butter for his drink.’ The admiral, to test the truth of the statement, gave him ‘a thick porridge of rice, boiled down with three pounds of butter, weighing together twenty-eight pounds, and although the glutton had already breakfasted, yet did he sit down to it with great eagerness, and consumed the whole without stirring from the spot; and except that his stomach betrayed more than ordinary fulness, he showed no sign of inconvenience or injury!!’ Captain Cochrane also states (p. 352) that a good calf, weighing about two hundred pounds, ‘may serve four or five good Yakuti for a single meal.’ In another place (p 255) the same traveler observes that he has repeatedly seen a Yakut or Tongouse devour forty pounds of meat a-day; and, he adds, ‘I have seen three of these gluttons consume a rein-deer at one meal.’

viz., the fats and oils, which contain from 66 to 80 per cent. of carbon. The celebrated traveler just quoted, further remarks, 'that in every expedition or voyage to a polar region, at least if a winter residence is contemplated, the quantity of food should be increased, be that as inconvenient as it may. It would be very desirable indeed, if the men could acquire the taste for Greenland food, since all experience has shown that the large use of oil and fat meats is the true secret of life in these frozen regions, and that the natives cannot subsist without it, becoming diseased, and dying, with a more meager diet.'

"The effect of cold in augmenting, and of heat in diminishing, the appetite for food, is well known. I will not, however, go the length of Liebig in asserting, that if we were to go naked, as the Indians, or if in hunting or fishing we were exposed to the same degree of cold as the Samoyedes, we should be able to consume the half of a calf, besides a dozen of candles.* For though it must be admitted that the inhabitant of a frozen region requires more abundant food than he who lives in a temperate climate, yet it is an error to ascribe the voracity and gormandizing powers of some of the natives of the colder regions to the influence of cold only. The Hottentots and the Bushmen [Bosjesmans]† of Southern Africa, indulge, as is well known, in beastly gluttony, yet this cannot be the effect of the temperature of their climate; while 'the inhabitants of the Alpine regions of Southern Europe demand no such extravagance of food, nor are even the people of Lapland and the northern extremity of Norway conspicuous for such eating; as is not less true of the Icelanders.'‡ Instead, therefore, of ascribing the gluttony of the inhabitants of frozen regions solely to the low temperature to which they are exposed, I consider it to be in part the result of an instinct or propensity exercised by some portion of the brain. Phrenologists place *alimentiveness* or the *organ of the propensity to eat and drink*, 'at the base of the middle lobe of the brain, adjoining and immediately below the situation occupied by the organ of destructiveness in carniverous animals.'§ But while I entertain no doubt of the existence of such a propensity, I do not wish to offer any opinion as to the precise seat of it within the skull. To varying degrees in the power and activity of this propensity I ascribe the greater or less fondness for good living evinced by different individuals. It is well known that some persons are notorious, among their friends and acquaintances, for their gormandizing propensity, while others are commonly reputed as being little eaters. Similar differences are observed between different nations. 'The great difference which exists between the French and Germans, in the organs of alimentiveness, accounts for the difference between the two nations in sobriety. After the Spaniards, no nation in Europe is more sober than the French; while the Germans are essentially great feeders. Among a pretty considerable number of German, Spanish, and French soldiers, who were in the same hospital at Caen, I have observed,' says Dr. Vimont, 'that a remarkable difference

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"* *Annalen der chemie und Pharmacie*, vol. xli. Liebig, or his translator, seems to have had some misgivings about the '*half of a calf*,' since, in the English translation, I find '10 *pounds of flesh*' substituted.

"† Barrow (*Account of Travels into the Interior of Southern Africa*, vol i. p. 152. 1801) says that the Hottentots are 'the greatest gluttons upon the face of the earth. Ten of our Hottentots,' he adds, 'ate a middling-sized ox, all but the two hind legs, in three days; but they had very little sleep during the time, and had fasted the two preceding days. With them the word is to eat or to sleep. When they cannot indulge in the gratification of the one, they generally find immediate relief in flying to the other.'

"The same authority, when speaking of the Bosjesmans, (*op. cit.*p. 288,) says that they are equally filthy and gluttonous with the voracious vultures. 'The three who accompanied us to our wagons had a sheep given to them about five in the evening, which was entirely consumed by them before the noon of the following day. They continued, however, to eat all night, without sleep and without intermission, till they had finished the whole animal. After this, their lank bellies were distended to such a degree that they looked less like human creatures than before.'

'‡ Sir J. Ross, *op. supra cit.* p. 447.

"§ *A System of Phrenology, by George Combe*, p. 230, 4th ed. Edinburgh, 1836.

existed among them in regard to the faculty in question. A light soup, some fruit, or a little meat, was sufficient for the Spaniards; the repast of the French consisted of three-fourths of the portion; while the Germans swallowed the whole allowance, and continually complained that they did not receive enough of meat and potatoes. Every time I happened to pass the wards where the Germans were placed, I was certain to be assailed by the words *flesh*, *flesh*, *sir!*'*

"Much less heat is evolved when there is a deficiency of food. During the whole of our march,' observes Sir John Franklin,† 'we experienced, that no quantity of clothing could keep us warm while we fasted, but on those occasions when we were enabled to go to bed with full stomachs, we passed the night in a wram and comfortable manner.' In tropical climates, and even in cooler regions during the summer, a smaller quantity of food suffices to keep up the temperature of the body, and under the same circumstances, substances containing a less proportion of carbon are better adapted for the preservation of health.'"

In regard to an *organ of alimentiveness*, the American editor adds the following judicious note:

"The best-informed physiologists of the present day admit, with our author, the existence of an organ of *Alimentiveness*, or *Organ of the Appetite for Food*, though they are not exactly agreed as to its precise location. The far-reaching sagacity of Gall perceived that the appetite for food is an instinct, not referrable to any of the recognised principles of mind, and therefore must be a primitive power, and, like the other faculties and instincts, must owe its existence and exercise to some definite portion of cerebral matter. Dr. Hoppe of Copenhagen followed up the suggestion of Gall, and showed very conclusively, that, besides the nerves of the stomach and palate, an affection of which gives rise to the sensations of hunger and thirst, there must also be an organ in the brains of animals for the instinct of *nutrition*, (taking nourishment for the preservation of life,) which incites them to the sensual enjoyments of the palate, and the activity of which is independent of hunger and thirst. 'How,' says he, 'should the mere sense of hunger, more than any other disagreeable or painful sensation, make the animal desire food, the necessity of such not being known to him by experience? This could only be effected by *instinct*, because, either an instinct, *i. e.* the immediate impulse of an organ, or else experience and reflection, are the causes of all actions.' Hunger and thirst are, therefore, to be discriminated from the desire of food called *appetite;* the former being an affection of the nerves of the stomach and palate, caused by deficiency of necessary supply; but appetite is an activity of a fundamental instinct, which has in the brain an organ analogous to those of the other faculties and instincts. Mr. George Combe, during his late visit to the United States, spoke as follows, in one of his lectures, in relation to this subject:

"'Observations made by various individuals have proved that there is in man an organ of appetite for food, situated in the zygomatic fossa. The stomach is to this organ what the eye is to the sense of seeing. Cut off the communication between it and the brain, and the appetite will be lost. A dog was kept without food till he was ravenous with hunger; the pneumogastric nerve was then divided, and the sensation left him at once. A number of cases have occurred in which a gluttonous appetite existed during life, and these convolutions were found, after death, ulcerated. Dr. Caldwell thinks the burning desire of the drunkard to arise from disease of this organ, and recommends it to be treated with bleeding, cold water, quiet, and attention to diet.

"'That this is the organ of alimentiveness has been confirmed by Vimont, and since coming to this country I have seen two strong proofs of it in the collection of Dr. Morton of Philadelphia; one, the skull of a Dutch admiral who died at Java in consequence of excessive eating, in which the organ is very

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"* Dr. Vimont, quoted by Mr. G. Combe, in his *System of Phrenology*, p. 765.

"† *Narrative of a Journey to the Shores of the Polar Seas, in the years* 1819 *to* 1822, p. 424. London, 1823."

much developed: but it is still larger in the skull of a convict of New South Wales, who inveigled seven people into the woods at various times, murdered and ate them.'

"Mr. Combe gives many examples of enormous eating, and refers them all to an inordinate development of the organ of "Alimentiveness," which he considers as fully established."

Having completed his most erudite view of the chemical elements of foods, our author next considers the *Alimentary Principles:*

"Two or more of the undecompounded bodies, described in the last chapter, form, by their union with each other, certain compound substances, termed *Alimentary Principles*, or *Simple Aliments;* and, by the combination or mixture of the latter, our ordinary foods, called Compound Aliments, are formed.

"Some alimentary principles contain two elements only, as Water. Others contain three, as Sugar and Fat. Proteine is formed of four elements, while Fibrine and Albumen contain six.

"Some alimentary principles, as Water and common Salt, are derived from the Mineral Kingdom; others are obtained from the Organized Kingdom."

This chapter treats of the following *alimentary principles:* 1. The aqueous; 2. the mucilaginous; 3. the saccharine; 4. the amylaceous; 5. the ligneous; 6. the pectinaceous; 7. the acidulous; 8. the alcoholic; 9. the oily; 10. the proteinaceous; 11. the gelatinous; 12. the saline.

These various subjects are all most happily treated, according to the most recent improvements in analytic chemistry, and also in practical and experimental physiology; and among the authors quoted, the name of our countryman, Dr. Beaumont, for many years of the United States Army, but now of St. Louis, frequently appears. These references relate to Dr. B.'s "*Experiments and Observations on the Gastric Juice, and the Physiology of Digestion,*"—experiments made upon the stomach of a Canadian, who had an artificial opening in the epigastrium leading to its cavity, the result of a gun-shot wound, treated by Surgeon B. himself.

This chapter abounds in the most important facts and conclusions, in reference to each of the twelve alimentary principles named above; and to give some idea of the general character of this part of the volume, we will here introduce a description of one of them:

"THE AMYLACEOUS ALIMENTARY PRINCIPLE.

(Farinaceous or Starchy Substances.)

"This principle is peculiar to plants, from which it is obtained under the various names of *Amylum*,[*] *Starch*, *Fecula*, or *Farinaceous Matter*. It is very generally distributed in the vegetable kingdom, existing in both cryptogamic and flowering (endogenous and exogenous) plants, and being found in thallus, roots, stems, tubercles, fruits, and seeds.

"The following table, gives an approximative idea of the quantity of starch contained in different parts of plants:

QUANTITY OF STARCH IN 100 PARTS OF THE FOLLOWING VEGETABLE ORGANS:

	Starch.	Authority.
1.—THALLUS.		
Iceland Moss	44·6[†]	Berzeelius.
2.—ROOTS.		
Janipha Mannihot or Tapioca plant (var. red)	13·5	DeCandolle.
Ditto (var. green)	11·5	Ditto.
Ipomæa Batatas	7·5	Ricord.
Ditto (var. red)	13·3	O. Henry.

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[*] The Greeks called it *ἄμυλον*, (from *a* negative, and *μύλος a mill*), because it was not prepared by grinding in a mill. (See Pliny, *Hist. Nat.* lib. xviii. cap. 17. ed. Valpy.

[†] Besides 36·2 parts of amylaceous fibre.

3.—TUBERCLES.

Potato (var. kidney)	9·1[*]	Einhof.
Ditto (var. red)	15·0[†]	Ditto.
Ditto (var. Shaw)	18·8[‡]	Vauquelin.
Ditto (var. Champion)	15·9[‖]	Ditto.
Ditto (var. Chair rouge)	12·2[§]	Ditto.
Ditto (var. L'Orpheline)	24·4[¶]	Ditto.
Ditto (var. Captain Hart)	15·	Skrimshire.

4.—RHIZOMES.

Maranta arundinacea, or Arrow-root plant	12·5	De Candolle.
Ditto	26·0	Benzon.
Canna coccinea	12·5	De Candolle.
——— indica	3·3	Ditto.
Ginger	13.0	Ditto.
Ditto	19·75	Bucholz.
Turmeric	26·0	De Condolle.
Discorea sativa, or the Yam	12·5	Ditto.
Ditto	22·66	Süersen.

5.—PERICARPS.

Artocarpus incisa, or Breadfruit	3·2	[**]De Candolle.
———— integrifolia, or Jak-fruit	6·2	Ditto.

6.—SEEDS.

Barley-meal	67·18	Einhof.
Oatmeal	59·0	Vogel.
Wheat-flour	56·5 to 72	Vauquelin.
Wheat-bread	53·5	Vogel.
Rye-meal	61·07	Einhof.
Maize [††]	80·92	Bizio.
Rice (*Piedmont*)	82·8	Braconnot.
Ditto (*Carolina*)	85·07	Ditto.
Peas	32·45	Einhof.
Garden Bean (*Vicia Faba*)	34·17	Ditto.
Kidney Bean (*Phaseolus Vulgaris*)	35·94	Ditto.

"The amylaceous substances are organized. Examined by a microscope, they are seen to consist of small grains, which are usually rounded, or elliptical, flask-shaped, or mullar-shaped, or polyhedral. The polyhedral form probably arises from the mutual compression of numerous grains in the same or neighboring cells. On some part of the surface of each grain is a circular spot, called the *hilum;* very rarely, two or even three of these spots are observed on the same grain. According to Raspail, the hilum is the spot where the starch-grain was adherent to the vegetable cell in which these grains are contained. The hilum usually cracks in a linear or stellate manner. Starch-grains have a laminated texture: that is, they consist of a series of concentric layers or membranes, the outermost of which is the thickest or firmest. To these layers is owing the appearance of concentric rings or rugæ which starch-grains present on their surface, and which are most evident in grains of Tous les Mois and of Potato Starch."

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[*] In addition to 8·8 parts of amylaceous fibre.

[†] Also 7·0 parts of amylaceous fibre.

[‡] In addition to 5·1 parts of amylaceous fibre.

[§] Besides 4·9 parts of amylaceous fibre.

[‖] And 10·2 parts of amylaceous fibre.

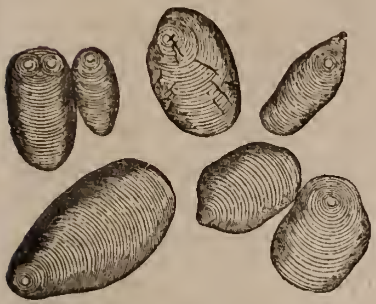
[¶] Also 6·2 parts of amylaceous fibre.

[**] *Physiologie Végetalé*, vol i. See also some experiments on the quantity of starch in various plants by Dr Clark, in the *Medical Facts and Observations*, vol vii. 1797.

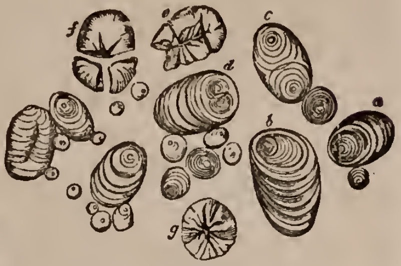
[††] It will be seen from the above table that while kidney potatoes, from which starch is usually prepared, yield but 9·1 per cent. of starch, Maize or Indian corn, yields 80·92. Advantage has lately been taken of this fact, in the establishment of manufactories, in this country, for the production of starch from this grain.—L.

MICROSCOPIC APPEARANCE OF STARCH GRAINS.

(Drawn to one scale.)

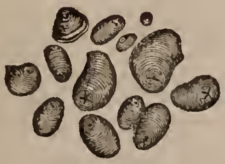


Grains of Tous les Mois or Canna Starch.

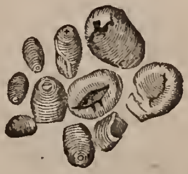


Grains of Potato Starch.

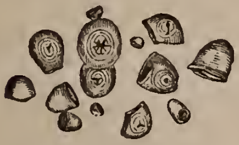
a, Normal starch particle (Fritzsche).
b, Irregular ditto.
c, *d*, Particles each having tow hila.
e, *f*, *g*, Particles broken by pressure and water; the internal matter remains solid (Payen).



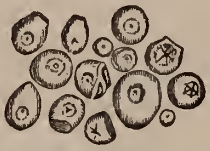
Grains of West-Indian Arrow-Root.



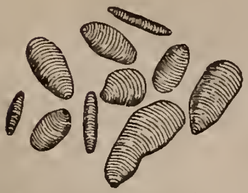
Grains of Sago Meal.



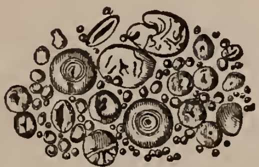
Entire Grains of Tapioca.



Grains of Tahiti Arrow-Root, or Otaheite Salep.

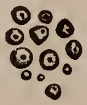


Grains of East Indian Arrow-Root.



Grains of Wheat Starch.

a, A particle seen edgeways.



Grains of Portland Arrow-Root.

"The organic principle of which starch-grains are composed is called *amidon* or *amylon.* This substance consists of carbon and water (or its elements.)

COMPOSITION OF STARCH.

	Carbon.	Water.	Authority.
Fine Wheat Starch - - -	37.5	62.5	Prout.
Ditto. dried at 212° - - -	42.8	57.2	
Ditto. highly dried at 350° -	44.0	56.0	
Arrow-root - - - -	36.4	63.6	
Ditto. dried at 212° - - -	42.8	57.2	
Ditto. highly dried at 212° -	44.4	55.6	

"The formula which agrees with Prout's third analysis of Arrow-root is $C^{12} + Aqua^{10}$.

"The starchy matter (called *Lichenin* or *Feculoid*) of Iceland Moss consists, according to Guerin-Varry, of $C^{10} H^{11} O^{10}$. If the analysis be correct, this variety of starch contains excess of hydrogen.

"To render amylaceous matter digestible, it requires to be cooked in order to break or split the grains;* for, of the different laminæ of which each grain consists, the outer ones are the most cohesive, and present the greatest resistance to the digestive power of the stomach, while the internal ones are the least so. Hence, farinaceous substances are boiled in milk or water,—or they are panified with gluten, by which the grains are completely broken up—or they are made into puddings and tarts.

"When cooked, it is usually regarded as a mild, slightly nutritious, easily digestible article of food. 'Directly or indirectly,' observes Dr. Prout,† 'it forms a constituent of the food of most of the higher animals, as well as of man. It differs, therefore, from sugar, in being a *necessary* article of food, without which animals could not exist; while sugar is not. Hence a much larger quantity of amylaceous matter than of sugar can be taken; and what is a still more decisive fact, the use of this larger quantity of amylaceous matter may be persisted in for an unlimited period, which, it appears, is not the case with a large portion of sugar.'

"By digestion, starch becomes converted into gum and sugar; the latter probably becomes absorbed. This conversion is effected, according to Leuchs, by the action of the saliva.‡

"The exterior laminæ of the starch-grain are thicker, more cohesive, and less readily digested, than the inner ones. Leeuwenhoek§ observed that the excrements of birds fed on the cereal grains contained a considerable quantity of these exterior laminæ, but without the interior matter; and from this he inferred that the latter only was the nutritive portion of starch.

"* 'Fecula,' says Raspail, (*Chim. Organique,*) 'is not actually nutritive to man until it has been boiled [or otherwise cooked.] The heat of the stomach is not sufficient to burst all the grains of the feculent mass which is subjected to the rapid action of this organ. The stomach of graminivorous animals and birds seems to possess, in this respect, a particular power; for they use feculent substances as food in a raw state. Nevertheless, recent experiments prove the advantage that results from boiling the potatoes and partially fermenting the farina which are given them for food. At all events, it is certain, that bruised grain is much more nutritive for them than that which is entire; for a large proportion of the latter passes through the intestines perfectly unaffected as when it was swallowed.'

"Braconnot (*Journ. de Chim. Méd.* t. iii. 2e Sér. p. 428–430) found unbroken starch-grains in the excrement of a slug, the temperature of this cold-blooded mollusk being insufficient to crack the grains. Unbroken grains, he states, are also found in the excrements of hot-blooded animals fed on raw potatoes. Hence, he adds, the potatoes employed for feeding cattle should be boiled; since, independently of the accidents which may arise from the use of them in the raw state, a considerable quantity of alimentary matter is lost by the employment of these tubercles in the unboiled state.

"† *On the Nature and Treatment of Stomach and Urinary Diseases,* p. 10. Lond. 1840.

"‡ Müller's *Physiology,* by Baly, vol. i. p. 548.

"§ Quoted by Guibourt, (*Hist. Abrég. des Drogues simples,* t. ii. p. 447. 3me ed.)

"According to Liebeg, (see *ante*, p. 16,) starch being a non-nitrogenized food,* is an element of respiration, and is incapable of transformation into blood or organized tissues. He, therefore, regards it as an element of respiration, and as contributing to the formation of fat, (see *ante*, p. 26.) 'Children fed upon arrow-root, salep, or indeed any kind of amylaceous food, which does not contain ingredients fitted for the formation of bones and muscles, become fat, and acquire much *embonpoint;* their limbs appear full, but they do not acquire strength, nor are their organs properly developed.'†

"The times required for the digestion of some amylaceous matters, are, according to Dr. Beaumont,‡ as follows:

DIGESTIBILITY OF AMYLACEOUS MATTER.

	Time required for Stomachal Digestion.
Sago, boiled,	1 hour.
Tapioca, boiled,	2 hours.

"It is doubtful whether tapioca is uniformly more difficult of digestion than sago.

"Farinaceous food is, perhaps, the least irritating of all kinds of aliments. It is, therefore, well adapted for the use of persons affected with morbidly sensible conditions of the primæ viæ. It will sometimes remain on the stomach when every other kind of nutriment is immediately rejected. Being totally devoid of all stimulating properties, it is a useful and valuable article of food in febrile and inflammatory diseases."

Having thus presented a philosophical view of the *amylaceous* alimentary principle, our author proceeds to give a precise and complete account of the varieties of amylaceous matter in common use for dietetical purposes. These comprise *sago, tapioca, arrow-root, tous-les-mois, potato-starch, Tahiti arrow-root or Otaheite salep, East India arrow-root, Portland arrow-root, rice-starch, and lichenin* or *feculoid.*

We may add, that we have seen among the Florida Indians large quantities of arrow-root, consisting of a very white amylaceous powder, made by them from the *maranta arundinacea*, which is here found in the greatest abundance, with large heart-shaped tubers. This is wholly free from any coloring matter or unpleasant odor; but there are many other kinds of inferior quality obtained from various plants, and even from the roots of the low palmetto, this last being quite red, and not at all agreeable to the taste. This preparation, called by the Seminoles *koonté*, is one of their chief articles of subsistence; and we were present on an occasion when some troops discovered and destroyed a large quantity, (many bushels,) which had been secreted by the Indians. Before the late Indian hostilities, considerable quantities were manufactured by several enterprising whites on the eastern coast of the peninsula, for the purpose of commerce.

In our next number, we shall resume our notice of this very valuable work, of which, we trust, our readers will very generally avail themselves, seeing that the retail price is but a single dollar.

"* Jacquelain (*Ann. de Chim. et de Physique*, t. lxxiii. pp. 167–207) states, that both starch and its granules contain from 0·24 to 0·31 per cent. of nitrogen.

"† Liebig, *Chemistry in its Application to Agriculture and Physiology*, pp. 128–9, foot note, 2d ed. 1842. Very recently, Dumas (*Annals of Chemistry*, Nov. 11, 1842) has denied that animals have the power of forming fat; and he asserts that the fat of animals is derived immediately from the fatty substances contained in the food on which the animals feed.

"‡ *Experiments and Observations on the Gastric Juice and the Physiology of Digestion.* By W. Beaumont, M. D. Reprinted from the Plattsburg edition, with notes by Dr. Combe. Edinb. 1838.

ART. XIII.—*A Dictionary of Practical Surgery: comprehending all the most interesting Impovements, from the Earliest Times down to the Present Period; an Account of the Instruments and Remedies employed in Surgery: the Etymology and Signification of the Principal Terms; and numerous References to Ancient and Modern Works, forming a Catalogue of Surgical Literature, arranged according to Subjects.* By SAMUEL COOPER, Senior Surgeon to the University College Hospital; Professor of Surgery in the same College; Surgeon to the Queen's Bench, etc., etc., etc. From the seventh London edition, revised, corrected, and enlarged. With numerous Notes and Additions, embracing all the principal improvements and greater operations introduced and performed by American Surgeons, together with a Supplementary Index, in which the science of Surgery is brought down to the present period, including all the recent improvements in Europe and America. By DAVID MEREDITH REESE, A.M., M.D., etc. New York: Harper & Brothers. 1842. 8vo., pp. 1166.

IN the preface to the sixth London edition, the fact is mentioned that, in England, this Dictionary had obtained a larger share of patronage than has perhaps ever been conferred upon any other surgical work; for it had then already been several times republished in America, and also translated into the French, German, Italian, and Russian languages.

> "In preparing this edition," says Mr. Cooper, "which is enriched with an account of all the latest improvements in surgery, I have conscientiously endeavored to deal fairly and impartially with every individual whose name I have had occasion to mention, or whose suggestions form subjects of consideration in the ensuing pages. My aim has been truth, wherever I could find her; and in every situation where any glimpse of her beautiful figure presented itself, I have ardently courted her, regardless of the name, school, or country on which she might deign to shed her glory. By steadily adhering to this principle; by zealously marking what the book of nature and the field of experience unfolded; by renouncing all obsequious submission to every other kind of authority; and by taking the liberty of sometimes thinking and judging for myself; I trust that the most likely plan has been adopted of maintaining the character of this book, and raising my own humble reputation."

In view, then, of the exalted reputation of this Dictionary, it were idle, on our part, to attempt a labored commendation; for, throughout the length and the breadth of this land, it has long maintained the character of a standard work, holding a place in almost every library, and being adopted as a text-book in many schools of medicine. Under the editorial supervision of the late distinguished Dr. Dorsey, of Philadelphia, it passed through four editions, which last was reprinted in New York, with an appendix by Mr. Wm. Anderson.

In the mean time, Mr. Cooper published the fourth and the fifth editions; and thus, by availing himself of the new and valuable discoveries in surgical knowledge which have of late years accumulated with a rapid pace, he gradually built up, by a proper condensation and arrangement of these materials, a noble superstructure of scientific surgery. There is one objection, however, that may be urged against these volumes, which is, that some of the articles consist of *patch-work;* that is, the author was content in successive editions merely to add whatever discoveries and improvements had meantime occurred, instead of re-writing these articles *de novo*, and thus making of them well-digested and congruous monographs.

It was at this period, 1830, that the Harpers published a stereotype edition of this work, edited by Dr. Reese, who added perhaps some two hundred pages of matter, consisting mostly of American materials. Upon this point the American editor remarks:

"Within the last few years, our profession, and especially the department of Chirurgery, has been making steady and even rapid advances in almost every country. Many diseases formerly among the opprobria of our profession have yielded to the science and skill of modern surgeons. Besides the vast improvements made in the treatment of surgical diseases, operations have been performed with entire success for the relief of injuries, but a few years ago esteemed irremediable; and some of them of so bold and difficult a character, that to propose them would have been a hazard of reputation which but few could have then survived.

"Learning is not indigenous to any country; and although national pride sometimes prompts to exclusive pretensions, yet the history of surgery, so far as this is concerned, forbids such presumptuous arrogance. The question, 'Who hears of American surgeons?' is no longer tauntingly repeated; since the discoveries and operations of some of them have extorted a tribute of admiration from almost every country where this science is cultivated, and given to their names professional immortality. In this, as in the other departments of learning, we may be allowed to say, without the imputation of vanity, that our countrymen have shown to demonstration, that when the tree of science is transplanted across the Atlantic, it is capable of taking as firm a root as in its native soil."

We now come to the American edition before us, (1842) which consists of eleven hundred and sixty-six large octavo pages, the supplementary Appendix added by Dr. Reese making one hundred and seventy pages. This last embraces "all the valuable improvements of the seventh and latest edition of the author, published in 1838, together with all the recent improvements in Europe since that date, and a record of the meritorious operations performed by American surgeons in various parts of the United States; thus bringing the science down to the present time"

The rapid advancement of surgery, within recent years, cannot but be in itself a subject of high interest to our readers; but especially so is it, as regards the part taken in this field of noble emulation by the surgeons of America. We therefore give place with much pleasure to the following correspondence between Mr. Cooper and Dr. Reese:

"In the article 'Surgery,' in the former edition of this Dictionary," says Dr. Reese, "and which, from the necessity of the case, is still retained in the text, it will be seen that, actuated by a national feeling, which will be appreciated by every American, I complained of the omission of the just claims and sterling merits in this department to which the surgeons of the United States were entitled, and attempted, in my notes, to supply the author's lack of service. Mr. Cooper has responded in a manner so creditable to himself, and to the liberal profession of which he is a veteran, that in justice to him I here insert his response. In the preface to his last London edition, 1838, he says:

"'In particular, it affords me peculiar gratification to have had an opportunity, in this seventh edition, of bringing under the notice of British surgeons the meritorious transactions of their brethren in the United States, where the same zeal for the advancement of Surgery, and the same just estimate of its value to society, are exemplified as in the mother-country. In Operative Surgery, the surgeons of no nation have exceeded them in decision, coolness, enterprise, and boldness; and however doubtful I may individually be respecting the real good likely, on the whole, to result to mankind from certain extraordinary achievements with the scalpel, which, as will be seen in the course of this work, have been performed in America, I give the surgeons of the United States, as I do to many surgeons in my own country, France, and Germany, who are smitten with the love of similar proceedings, the credit of being actuated by the zealous hope of being able, by such means, to extend the efficiency of Surgery to cases of the most desperate kind.

"'This edition will not only be the means of diffusing the knowledge of what has been done in operative and other parts of Surgery by European and American surgeons, but it will prove that, however right Dr. Reese may have been in complaining of my not having formerly done full justice to the surgeons of the United States, it was not from any desire on my part to keep their transactions concealed, but simply from the fact that I did not then possess the information that has since reached me of their praiseworthy exertions.'

"Under the article 'Jaw-bones, amputation of,' he thus speaks:

"'The operation of removing a considerable portion of the lower jaw-bone is stated by Dr. Reese to have been first performed by Dr. Valentine Mott. This claim I was not aware of at the time when the article *Bones, Excision of*, was delivered to the printer, nor have I, at the present moment, leisure to ascertain the point. 'Dr. Mott is not only the *first*,' says Dr. Reese, 'but the *only* surgeon who has amputated the bone successfully at the articulation, except (since) Dr. Cusack of Dublin.' (See *Amer. ed. of this Dict.*)

"'I am very glad to have had this opportunity of recording the claim of Dr. Valentine Mott to the merit of having first removed the lower jaw at the articulation. The achievements of this distinguished surgeon, to whom I had the gratification of being introduced when he lately visited University College Hospital, I shall always be as proud of noticing as if they were the performances of any British practitioner.'

"And appended to the article 'Surgery' I find the following frank and manly paragraph:

"'I regret that, in the last edition, due justice was not done to the meritorious surgeons of the United States of America. This happened, however, not from any want of desire on my part to pay the tribute of honor where it was deserved, but from my not being then in possession of the valuable information respecting the progress of Surgery in the United States, which I have since obtained from Dr. Reese's American edition of this Dictionary, and other sources. I most cordially join, then, in the observation that, in a history of this kind, mention ought to be made of 'the names of Drs. White, Dudley, Davidge, Dorsey, Shippen, Bard, Post, Mott, Gibson, Parrish, Barton, M'Clellan, Stevens, Warren, Smith, Jamieson, and a host of others, who have contributed by the pen and the knife to elevate this department of the profession: this will be admitted, unless the successful ligature of the subclavian, the common iliac, the internal iliac, and that of the innominata, the amputation of the hip-joint, and upper and lower jaw, the extirpation of the parotid gland, the exsection of the clavicle, and the cure of aneurism, by tying on the distal side of the tumor, be unworthy of record. Some of these operations,' continues Dr. Reese, 'had never been attempted in Europe till our surgeons had led the way; and by these and other splendid achievements in Operative Surgery, had demonstrated their practicability and success.' In adverting to such merit in the surgeons of the United States, I feel all that heartfelt pleasure which arises from the remembrance of their close connection with my native country by the ties of blood and language, and they may rest assured of my sincere esteem, and of my earnest wish to render full justice to them on every subject.'

"It is a source of gratification to me that my humble effort has been successful in acquainting our professional brethren in Europe with the real merits of my own countrymen, so many of whom have distinguished themselves by their exertions in behalf of science and humanity, and whose meritorious claims in surgery have never before been recognised or acknowledged. Mr. Cooper has, in this seventh edition of his work, incorporated all my numerous notes and additions on American Surgery, so that our national pretensions are now spread before the profession in Great Britain. A similar meed of justice has also been since awarded us in France; for, in the second edition of Velpeau's 'Nouveaux Elements de Médécine Operatoire,' the author has manifested a commendable spirit of liberality and justice to American surgery which does him honor.

"The following extract of a letter lately received from the venerable author of this Dictionary, addressed to the American editor of his work, will be gratifying to the profession, and its insertion here is due to Mr. Cooper.

"'*Woburn Place, Russell Square, London.*

"'I am glad to hear that you are about to undertake another American edition of the Dictionary of Practical Surgery, for you acquitted yourself so ably in the editorship of the former one, that not a doubt can be entertained about your very superior qualifications for the task. I know that numerous valuable observations and improvements in Surgery have been made in Europe and America subsequently to the publication of your first edition, and especially since the year 1830, when your notes were written. Perhaps in the last ten years, I may say with truth that Surgery has made greater progress than in any preceding space of time of the same length; hence there must be a necessity for much change in every general treatise on the subject, in order to adapt it to the present state of the science, and to let it give a correct explanation of the theory and practice most approved of in those parts of the world where our noble profession is cultivated with the greatest degree of success. These remarks are especially applicable to the Dictionary of Surgery, which embraces the whole range of the subject, and, perhaps, has a more extensive circulation than any other book devoted to it. Into your new edition you will be able to bring not only all the new matter brought into my last edition, but other observations and improvements made by the talented surgeons of the United States, and either not known to me, or not within my reach at the period when I was writing. Whenever I arrive at a new edition again, your testimonials of the contributions of your distinguished countrymen will not be overlooked, and every endeavor will be made to do them justice. Believe me that I shall be most happy to shake hands with you in London, and that I am most faithfully yours, SAMUEL COOPER.

"'*Professor Reese, New York.*'"

Professor Reese has performed his work well; and although but twelve years had transpired since the publication of the previous edition, the improvements exhibited in Surgery are neither few nor inconsiderable. There is, indeed, one department, namely, the speciality of Orthopœdic Surgery, which was but in a state of embryo, when the former edition was issued.

We deem it wholly unnecessary to say a word in recommendation of this compendium of surgical literature. But we will add, that to the surgeons of the army and navy, whose modes of life cut them off, in a great measure, from access to large libraries, this volume, seeing that it is a surgical library in itself—a true exemplification of the *multum in parvo*—must constitute an invaluable treasure of surgical knowledge.

ART. XIV.—*Pathological and Surgical Observations on the Diseases of the Joints.* By Sir BENJAMIN C. BRODIE, Bart., F.R.S., Sergeant-Surgeon to the King, Surgeon to St. George's Hospital, and author of Diseases of the Urinary Organs. Philadelphia: Lea & Blanchard. 1843. 8vo. pp. 216.

THIS edition is reprinted from the fourth London edition, with the author's alterations and additions; and this alone is no unimportant fact, as showing the general character of this treatise. The substance of this work consists of three papers, which appeared originally in the volumes of the Medico-Chirurgical Transactions; but the whole has been since considerably modified, and much new matter has been added.

> "The following pages," says Sir Benjamin, "contain a series of observations, which were begun several years ago, and which have been continued, notwithout considerable labor, up to the present period. They relate to a class of diseases which have strong claims on the attention of the surgeon; since they are of very frequent occurrence; are a source of serious anxiety to the patients; and, for the most part, if neglected, proceed to an unfavorable termination. There are other circumstances, also, which seem to render the morbid affections of the joints a fit subject of investigation. They have scarcely met with the attention which they merit from former pathologists. The terms, white swellings, scrofulous joints, &c., have been used without any well-defined meaning, and almost indiscriminately; so that the same name has been frequently applied to different diseases, and the same disease has been distinguished by different appellations. Confusion with respect to diagnosis always gives rise to a corresponding confusion with respect to the employment of remedies; and hence I was induced to hope, that, if it were possible to improve our pathological knowledge of the diseases to which I have alluded, this might lead, not indeed to the discovery of new methods of treatment, but to a more judicious and scientific application of those which are already known, and a consequent improvement of chirurgical practice.
>
> "The joints, like the other animal organs, are not of a simple and uniform, but of a various and complicated structure. Although, in the advanced stages, the diseases to which they are liable extend to all the dissimilar parts of which they are composed, it is to be presumed that such is not the case in the beginning. We cannot doubt that here, as elsewhere, the morbid actions commence sometimes in one and sometimes in another texture; and that they differ in their nature, and are variously modified, and, of course, require to be differently treated, according to the mechanical organization and the vital properties of the part in which they originate."

A simple glance at the contents of this volume will serve to show its general character:

Chap. I. On Inflammation of the Synovial Membranes of Joints.
" II. On Ulceration of the Synovial Membrane.
III. On Cases in which the Synovial Membrane has undergone a Morbid Change of Structure.
" IV. On the Ulceration of the Articular Cartilages.
" V. On a Scrofulous Disease of the Joints, having its Origin in the Cancellous Structure of the Bones.
" VI. On Caries of the Spine.
" VII. On Tumors and Loose Cartilages in the Cavities of the Joints.
" VIII. On Malignant Diseases of the Joints.
" IX. On some of the Diseases of the Joints.
" X. On Inflammation of the Bursæ Mucosæ.

In a survey of these subjects, the practical physician will at once perceive that here are presented numerous questions, which have often proved to him stumbling-blocks of no small magnitude; and to the student of medicine, it opens a vast field of inquiry, demanding much patient investigation for its satisfactory comprehension. To both, then, this litttle volume will be one of much service, inasmuch as we have here a condensed view of these complicated subjects, thoroughly investigated by the aid of the light afforded by modern pathological surgery.

PART THIRD.

Foreign Medical Intelligence.

ANATOMY AND PHYSIOLOGY.

1. *Early Marriages, so common in Oriental Countries, no proof of Early Puberty.*—In the No. of the Edinburgh Medical and Surgical Journal for July last, we find another paper on the Natural History of Puberty, by John Roberton, Surgeon, Manchester, he having previously published two papers on the same subject in the numbers of the same Journal for October, 1842, and July, 1842.

> In the papers just mentioned, (he says,) I have expressed an opinion, that early marriage and early intercourse between the sexes, wherever found generally prevailing, are to be attributed not to any peculiar precocity, but to moral and political degradation, exhibited in ill laws and customs, the enslavement more or less of the women, ignorance of letters, and impure or debasing systems of religion. In proof of this opinion I expect to be able to show that in *England, at a period when some of the unfavorable circumstances just mentioned as yet lingered among us, early marriages were very common, if not in all ranks, certainly among the gentry; and that such marriages were likewise common very recently among both high and low in Ireland.*
>
> Before entering on the evidence for this curious and hitherto unnoticed fact,—unnoticed I mean in connection with the present subject of inquiry—it may be well to state what is the age of marriage in some European countries, lying, like England, in the temperate zone, and therefore experiencing the same, or nearly the same climate, but where the mass of the people, from moral or political causes, and commonly both, are sunk in gross ignorance, or at best, with slow and doubtful progress, emerging from it.
>
> It is to be recollected, that, though I have alluded to Hindostan, by way of example, as a land of early marriages, such marriages are found in the coldest climates,—found as commonly among the Esquimaux of North America and the tribes along the shores of Siberia, as on the burning plains of the Carnatic or in the islands of the Indian Ocean,—equally in the inclement Archipelago of Terra Del Fuego,* as among the tribes on the Orinoco,—among the Kirgis with their herds of Yaks, in the perpetual snows of Pamir at the fountain of the Oxus,† as in the verdant and sunny island of Ceylon. In every country, supposing the simple means of subsistence easily attainable, and even generally where it is otherwise, if the people are strangers to the Christian Scriptures, or to the civilization of the more favored European nations, which has its root in the Scriptures, *there* the female sex remains uneducated and unhonored, bought and sold, or bargained for in some form, like an article of merchandise; and

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* "The Fuegians marry young."—Voyages of the Adventure and Beagle, vol. ii. p. 182 Evidence as to the existence of early marriage among the Esquimaux and the Northern Asiatics will be found in my former papers.

† Journey to the Source of the Oxus in 1836-7-8, by Lieutenant Wood, p. 340. The Yak cannot live or does not thrive even in the winters of Cabul. It seems to require the region of perpetual snow, from under which it procures its food.

there it is found that generally the marriage union takes place at a premature age.*

Spain.—A recent writer has said, " The general immorality of females is to be attributed to the prevailing system of early marriages—marriages of policy or convenience—and to the low standard of morals, rather than to extraordinary depravity of natural disposition." "In Spain, women for the most part marry first and love afterward, and conjugal fidelity is consequently a rare virtue, especially as neither religion nor education interposes to check the fervid passions of a southern clime." "The cause of the low standard of sexual morals may be referred to the defective system of education, and the want of any proper religious principles to control the ebullition of passions." "I was amazed to discover the profound ignorance of the Andaluzas on the most common topics. The fact is, that in Spain woman is still suffering an Oriental degradation. She is still regarded in the light of a being created to contribute to the sensual gratification of man, rather than to be his companion, his friend, his counsellor."†

Sicily.—Frederick von Raumer calls "Ireland the English Sicily,"‡ intimating that the degraded condition of the people of Sicily is a disgrace to the Neapolitan government, as that of the Irish is a stain on the government of England. It is when speaking of the Sicilians that an interesting writer has said, " One must not enter these huts with English ideas; cleanliness must not be expected, but he will find enough to eat and drink, and the peasants satisfied with what they have. If any proof of what I have said were wanted, it might be found in the *universally* early marriages, and the numerous broods of naked, dirty, but not ill-fed children that are every where to be seen."§

Greece.—In Mr. Strong's valuable statistical work lately published, entitled " Greece as a Kingdom," when treating of the soil and the inhabitants, he alludes to the early union of the sexes, which he seems to attribute to natural precocity, and mentions an Athenian lady who was a grandmother at the age of 24.‖ Whittman in his Travels had given 15 years as about the age when the Greek women marry; ¶ and those of the Ionian Islands, according to another writer, marry, some at 11, many at 12, and most before 16; all the matches being made by the parents.**

Russia.—European Russia may still perhaps be considered, as to the mass of its population, as lying beyond the boundary of civilized Europe; and here the age of marriage, according to the testimony of a number of writers, is allowed to be extremely early—to have been so, at all events, till within a very recent period. Thus Mr. Tooke writes, that the common sort enter into the nuptial state " as early as they can;" and elsewhere remarks that the women arrive at maturity at their 12th or 13th year.††

Another writer has said, that the lords of the soil in Russia, all take care to promote matrimony early.* According to Archdeacon Coxe, a boy of nine or ten is often married to a woman of more advanced age, she living as his father's concubine.† This latter is a curious trait which was noticed by Sir Dudley North, as we learn from his Letters during a residence in Archangel as far back as the reign of Charles II. "One of the inconveniences," says he, "that lie on those who dwell in this country, is, that the people are so given to nastiness, that nothing can be eaten out of their hands; you shall have perhaps four brothers and as many sisters, with their father, mother, husbands, and wives, all dwelling in one hot-house; (*wisbie* they call it;) they have nothing but a little straw strewed on the ground to lie upon." "In this country, the husband is the sole commander of the wife, who differs very little from his servant. Many will marry their sons to lusty baggages on purpose to gain able servants."‡

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* Probably in all countries in an early stage of civilization, it has been the custom to buy and sell wives. By the laws of the Saxon Ethelbert, " if a free man lie with the wife of another free man, let him buy another wife for the injured party."—Strutt's Manners and Customs of the People of England, vol. i. p. 75. There were laws fixing the price for women of all ranks as wives.—Ibid. p. 76. And Michaelis, with reference to Germany, mentions, that, in the German Chronicles of the Middle Ages, " we find it stated that A B. bought C. D., that is, married her."—Smith's Translation of Michaelis's Laws of Moses, vol. i p 450. This subject—the age and terms of the matrimonial contract in different countries, at different periods—has never, as yet, with anything like an adequate degree of care, been investigated, although there are few that better deserve the trouble.

† A Summer in Andalusia, vol ii. pp 404, 5 and 6. London, 1839.

‡ Italy and the Italians, vol ii p 355.

§ Letters on Sicily, by William Irvine, M. D., p. 27. In the Spanish Island, Minorca, the Minorquins " are often betrothed to each other while children, and marry at fourteen."—Cleghorn on the Epidemic Diseases of Minorca, p. 54.

‖ Greece as a Kingdom, by F Strong, Esq., 8vo.

¶ Travels in Turkey, &c , by W Whittman, M. D., p. 25.

** Goodison on the Ionian Islands, p. 222.

†† Tooke's Russian Empire, vol. i. p. 375.

But our space will allow us to follow no farther in these interesting details relative to Russia. Suffice it to say, that—

By a recent ukase of the present Emperor Nicholas, (1831,) the priests are forbidden to solemnize marriage unless the man be 18 and the bride 16 years old: and this edict extends also to the Uniats and Protestants in the Empire.§

Mr. Roberton next proceeds to show that in England, as in Russia, a transition from marriage at a juvenile to marriage at a more mature age, must also have occurred. The average age of marriage in England, at the present period, appears from the following extract:

In the Report of the Registrar-General for the year ending 1839, a table of the ages in 4858 marriages has been published, and these not being selected instances, but belonging to districts varying in situation and character, and including every marriage in those districts, may be presumed to be a fair example of the ages at which marriages occur throughout the whole kingdom. According to this table there were under 15 years, none for either sex; of males 15, and under 20 years, there were 3 1-5 per cent.; and of females of the same ages about 14 per cent. of the whole number. The average age of marriage was for men, 27 years, and for women 25 years and a few months: a result which still leaves room both for regret and improvement.||

Mr. Roberton shows that the English law appears to proceed on the assumption that early marriages were common:

Thus Littleton tells us that the wife shall be endowed out of her husband's lands and tenements, "whether she have issue by her husband or no, and of

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* Cooke's Travels through the Russian Empire, vol iv. pp. 70 and 71.

† Archdeacon Coxe's Travels in Poland, Russia, &c vol. i p. 439.

‡ Life of Sir Dudley North, in North's Lives, vol. ii. pp. 310-12.

§ Past and Present State of Russia, p. 303.

|| Report of the Registrar-General for 1840, page 10, 8vo. From Senior's statement concerning a provision for the poor of foreign nations, 8vo. 1835, we find that in several European countries the laws against early and improvident marriages are, as appears to an Englishman, extremely strict. Thus in Bavaria the clergy are held responsible for the support of those poor persons they have married without leave from the authorities, besides being fined. In Berne, no pauper can marry without the consent of his parish; in Norway, no one can marry until he has satisfied the clergyman that he is able to maintain a family; in Mecklenburgh, owing to the conscription and other causes, men marry at from 25 to 30, and the women not much earlier. In Saxony a man liable to serve in the army may not marry under 21; in Wurtemberg no man is allowed to marry, unless permission have been especially obtained or purchased, under the age of 25. In Belgium the average age of marriage is for men 27, and 26 for women.

> what age soever the wife be, so she be past the age of nine years at the time of the death of her husband, for she must be above nine years old at the time of the decease of her husband, otherwise she shall not be endowed."[*] On this passage Sir Edward Coke makes the following comment: "If the wife be past the age of nine years at the time of the death of her husband, she shall be endowed of what age soever her husband be, albeit he were but four years old. Quia junior non potest dotem promereri neque virum sustenere; nec obstabit mulieri petenti minor ætas viri."[†] "This we are told by that grave and reverend judge, without any remark of surprise or reprobation," says Mr. Christian, indignantly; and then he adds—"It is abundantly clear, both from our law and history, that formerly such early marriages were contracted as in the present times are neither attempted nor thought of."[‡]
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> In another instance, the law concerning rape, the existence of very early marriage is indirectly recognised thus:—by the statute of the 18th Elizabeth, which makes it a capital crime to abuse a consenting female child under the age of 10, an exception seems to be left for these marriages, by its being declared that *only the carnal and unlawful knowledge* of such woman-child is felony.[§]

Among the numerous instances of early marriages adduced from English history by Mr. Roberton, we will quote several:

> It would seem that the dread of wardship and marriage sometimes operated with parents in marrying their children at a tender age, with a view to evade this oppressive law. Thus Maurice, fourth Lord Berkeley, was knighted at 7,[||] and was married at 8 years old to Elizabeth, daughter of Hugh, Lord Spencer, then but 8 years old, the reason being that early marriage prevented wardship, the payment of a large fine to the king, and assisted the party's own affairs with interest and powerful connections. This instance happened in the reign of Edward III. From a subsequent entry it is uncertain whether or not the juvenile couple were permitted to cohabit till the age of 16; since at the age of 14 the young husband, it appears, was sent to travel two years in Spain.[¶]
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> 1603. James, first Duke of Hamilton, born 1603, married the daughter of the Earl of Denbigh, he 14, and the bride 7.[**] Burnet says, "after the years for consummating the intended marriage were over, he was forced to it not without great aversion, occasioned, partly, by the disproportion of their ages, and partly by some other secret consideration."
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> 1680. Elizabeth, sole heiress of Joseline Percy, Duke of Northumberland, was married to Henry Cavendish, Earl of Ogle, who, however, died before he was of age to cohabit with her.[††]
>
> Maurice, third Lord Berkeley, [Edward I.] was married at 8 years old, and a father before he was 14. The historian adds, "more than a dozen instances of paternity occur before that age."[‡‡]

Mr. Roberton thus cautiously concludes:

> Perhaps the facts which have now been presented may be thought to warrant the following conclusions:
>
> 1st, That in England, Germany, and Protestant Europe in general, early marriage—that is, marriage about the age of puberty—would seem to be comparatively rare.

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[*] Coke's Littleton, lib. i. sect. 36 of Dover. [†] Ibid.

[‡] Notes and additions to Blackstone, vol. ii. p. 132.

[§] Christian's notes and additions to Blackstone, vol. ii. p. 132.

[||] If an infant tenant by knight-service was created a knight, the king was no longer entitled to the wardship of his person, nor to the value of his marriage.—Christian's Blackstone, vol. ii. p. 67.

[¶] Berkeley Manuscripts, pp. 140-141.

[**] Burnet's Lives of the Hamiltons, folio, p. 406.

[††] Collins, vol. p. 167.

[‡‡] Berkeley Manuscripts, p. 115.

2d, That early marriage prevails among the uncivilized tribes, which wander within the Arctic Circle; as it likewise does in all cold countries, without any exception, the inhabitants of which are in a state of ignorance and moral degradation.

3d, That throughout European Russia, which is confessedly low in civilization, extremely premature marriage was the universal custom at no distant date.

4th, That, at the present day, in the most southerly countries of Europe, where the people are immersed in superstition and ignorance, marriage is early.

5th, That in Ireland, which, as to its moral condition, somewhat resembles the last mentioned countries, the marriage union takes place among the Roman Catholic population at an age probably almost as early.

6th, That in England about two centuries ago, when debasing political and social circumstances combined to favor the practice, early marriages were general, at all events in the upper ranks.

7th, That in all countries to which reference has been made, juvenile marriage is invariably seen as an attendant on ignorance and moral debasement, and this without reference to CLIMATE.

8th, That consequently it is perhaps allowable to infer that early marriage in oriental countries (which has generally, in the absence of all proof whatever, been ascribed to precocious puberty,) does solely depend on the same moral and political causes as elsewhere produce it; more especially as those very causes are well known to exist, at present, in an aggravated degree in all oriental and intertropical countries.

9th, That instead of ascribing early marriage, so prevalent in our Asiatic dominions, to precocious puberty, (in the absence of all evidence whatever of the fact,) it would be desirable to try moral and legislative remedies, with a view to the removal of a practice so injurious; a practice which seems to be incompatible with social improvement.

MEDICAL PATHOLOGY AND THERAPEUTICS.

2. *Involuntary Spermatic Discharges.*—In cases of involuntary pollutions, says M. Lallemand, there exists almost always, at the same time, irritation and debility, excessive sensibility, and want of tone in the spermatic organs. These two conditions may be observed to be present simultaneously, but in variable proportions; this precisely it is which disconcerts the practitioner, and causes despair in the patient; since antiphlogistics and tonics, emollients and excitants, repose and fatigue, produce good or bad effects in the same individual, according as the irritation or the debility predominates at the moment. Cauterization has the advantage of combatting at the same time these two orders of symptoms (debility and irritability); by destroying the surface of the engorged tissues, it alters their morbid sensibility; the resolution of this state produces a contraction of the parts, which gives them new energy; hence it is that cauterization in the majority of cases suffices to bring about a cure.—*Medical Times, June* 3, 1843.

3. *Chloride of Lime or Soda a Preventive of Venereal Diseases.*—Many experiments have been recently performed in reference to this question; and these have invariably led to the belief that the chloride of lime or soda destroys the contagious properties of venereal pus, both as regards gonorrhœa and syphilis. Of all the agents tried, this seemed invariably to be the most powerful in destroying the principle of contagion; and, indeed, chemists have long ago arrived at the same conclusion, when the poisonous principle exists in a gaseous state, floating in the atmosphere. At a recent sitting of the Royal Academy of Medicine, at Paris, a number of experiments on this subject were communicated by

Dr. Coster, who also recommended that a solution of the chloride of lime should be supplied by Government to all the public women of Paris, and that a notice should be affixed in their chambers advising its use.

MATERIA MEDICA AND PHARMACY.

4. *Quinia.*—This therapeutic agent still continues, as noticed in our last Number, to be a subject of discussion in foreign journals, as regards its poisonous properties in large doses. In the July Number, we referred to an account of eighteen cases of acute articular rheumatism, which had been completely cured by very large doses of this medicine, by Dr. Briquet, one of the physicians to the Hôpital Cochin; and we now have before us, in the "*Journal de Médécine,*" another report by the same physician, entitled, "*Nouvelles recherches sur le traitement du rhumatisme articulaire aigu par le sulfate de quinine à haute dose.*" This memoir, presented to the Academy of Medicine, gives the history of twenty-seven new cases of acute rheumatism, treated with large doses of quinine, in l'Hôpital Cochin.

The patients consisted of sixteen men and eleven women; and of these cases, five were very serious, eight somewhat less so, six were of a mean intensity, and eight were rather light attacks. The dose of the sulphate of quinine was graduated according to the intensity of the symptoms; the eight most seriously affected took, from the beginning, four grammes * (nearly sixty-two grains) in twenty-four hours, thirteen took three grammes, (about forty-six grains,) and the rest from twenty-five decigrammes to two grammes. This medicine was usually continued five days, the patient taking generally in all ten or twelve grammes, and sometimes as much as seventeen, administered in solution with sulphuric acid, and thus forming the bi-sulphate. The medicine thus prepared, according to M. Briquet, constitutes the only form that is always identical; and the dose he graduates, in all cases, in accordance with the intensity of the disease. If the fever was high, the quantity of quinine was correspondently augmented; but in chronic rheumatism, he limits himself to two grammes, as a general rule. The first favorable symptom in this treatment is a cessation of insomnia. He mentions one case in which the patient had not slept at all for six weeks; and yet, on the second day of this treatment, she slept as well as when in perfect health. The second favorable result is the diminution of the pain and swelling in the parts affected; but this diminution was more speedy in some of the cases detailed in his previous memoir, when considerably larger doses were used. Then, eight among twenty patients, were completely cured in forty-eight hours. Under the present treatment by diminished doses, the mean term of recovery he estimates at six days. Two patients died; but in them, the rheumatic symptoms, he says, were the least important part of their disorder. In one of them, who took but a comparatively small quantity of the sulphate of quinine, autopsy revealed foreign growths in the aorta and at the mitral valve, and two great effusions into the pleura. The other was a female, who had given birth to a child within five days of the time of entering the hospital. She had extremely acute pain with swelling in nearly all the moveable articulations, erysipelas of one arm, uniform and considerable tumefaction of one thigh, frequent nausea, pulse 130, etc. On the first day, she took six grammes (about ninety-three grains) of the sulphate of quinine; and on the second day, the amelioration in her symptoms exceeded all expectation. After this day, however, the administration of the quinine became wholly impracticable, in consequence of vomiting being produced by every dose; and the patient succombed in about two days. Dissection discovered pus in many articulations and in the sub-cutaneous cellular tissue of the arm, and also revealed gangrene of the internal surface of the uterus.

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* A gramme is 15.434 Troy grains.

In all these cases, it is alleged, by M. Briquet, that no disagreeable incident, rigorously speaking, had supervened, as a consequence of the mammoth doses of quinine. In nearly all, there occurred a buzzing, whistling, and tingling in the ears, that was continual and fatiguing, but in no instance did it ever amount to deafness. Many experienced vertigo on rising, others felt fatigue or smarting in the eyes, or suffered the occular deception of small objects floating in the air; but, in no case, was amaurosis or marked dilatation of the pupil observed.

M. Briquet attaches much importance to the administration of the sulphate of quinine in complete solution; for, in this state, he considers it most favorable for absorption, the action of the salt being regular and rapid; but, in powder, this substance, which is almost insoluble, he says, acts but in proportion as it meets with acids capable of dissolving it. Besides, as the production of acids in the digestive tube is very variable, M. Briquet thinks that the sulphate of quinine, from want of a solvent, may accumulate in this viscus, and that a sudden and profuse secretion of acid may convert the whole at once into a state of activity; and to this cause, he ascribes the possibility of serious results, which in the case of its being administered in solution, would be noways likely to occur.

As regards the point of time when the administration of the quinine ought to be suspended, M. Briquet believes that we have a sufficient guide, on the one hand, in the phenomena of prostration and vertigo, and, on the other hand, in the increasing frequency of the pulse, or in its extreme relaxation and smallness, thus indicating a dangerous depression below its normal type.

In our last Number, several cases, in which quinine in large doses was administered, were noticed as having terminated fatally. Into the value of these same cases, the deaths having occurred prior to the reading of the memoir before us, M. Briquet proposes to inquire, with the view to determine whether they afford sufficient force to warrant our rejection of the use of sulphate of quinine in large doses.

We cannot follow our author in these details. Suffice it to say, that the fatal case, noticed in our previous Number as a victim to quininism, which occurred under the hands of M. Recamier, and in which dissection revealed the signs of a general and most intense meningitis, he combats successfully, at least so far as to show that the evidence in the affirmative is by no means satisfactory. He alleges that M. Bally has frequently given the sulphate of quinine in doses of four grammes (about 62 grains) in cases of arachnitis; that M. Deleus has done the same, and has recommended it, but in a smaller dose, in encephalitis; that his colleague, M. Blache and himself had given as large a dose to forty patients affected with *fiévre typhöide*, following a form of *méngo-encéphalite;* and that, in fine, there existed no fact to demonstrate the existence of inflammation of the encephalon occasioned by this therapeutic agent. Besides, he shows that the sudden supervention of meningitis or encephalitis in the course of acute rheumatism, leading speedily to death, though not common, yet is not of very rare occurrence.

M. Briquet notices several other cases, which have appeared in the medical journals, in illustration of the evil consequences of large doses of sulphate of quinine; but our space will not allow us to follow him in these details. He maintains that the medicine may be given with entire safety under the restrictions observed by himself. Thus, he prescribes the salt in a soluble form, and repeats the dose so frequently as to ensure the giving of a small quantity at a time; and in the event of an unfavorable result, when decidedly marked, he suspends instantly the use of the medicine.

These fatal cases he explains on the ground of mere coincidence or of idiosyncracy. He thinks them not unlike the instances in which a fatal phlebitis follows blood-letting—not unlike the supervention of an uncontrolable erysipelas upon the simple application of a few leeches—or the destruction, by gangrene, of the thoracic and abdominal parietes, as the result of a mere vesicating plaster.

We have thus condensed, within the compass here presented, M. Briquet's memoir of twelve pages, in which, perhaps, full justice may not be done to his views, in consequence of this severe compression.

Upon the whole, however, we are not satisfied that M. Briquet is authorized in maintaining the innocuousness of sulphate of quinine in the large doses given by him. According to the experiments of MM. Majendie and Malier, sulphate of quinine proved poisonous to dogs in doses of two grammes; and it was found by M. Giacomini that two and a half grammes poisoned rabbits. In reference to man, the question ought not to be, we think, how much he can take without being poisoned, but to determine in what doses the medicine can be most usefully administered. May he not derive as much advantage from the quantities usually prescribed, as from the mammoth dose of six grammes? At all events, let the practitioner bear in mind the direction given to Phæton by his father—"in medio tutissimus ibis."

OBSTETRICS AND DISEASES OF FEMALES.

5. *Cephalotomy.*—A dreadful degree of responsibility attaches to the accoucheur in every instance of perforation of the head. The operation can never be a matter of choice: it is one of imperious necessity, to which he is impelled, with whatever reluctance, by the strictest sense of professional duty. If the child be alive when the head is perforated, its life is certainly destroyed, and infanticide is committed; yet, for the reason just stated, viz., that the act is not a matter of choice, but of necessity to save the mother, it is a justifiable act, and ceases to be a criminal one. Should we even possess satisfactory proof that the child is dead in utero, as, for instance, under a case of simple, but lingering labor, with the funis below the head, devoid of pulsation; though no violence would be offered to the child by the perforation of the head, we ought to abstain from an unnecessary resort to it, even for the sake of appearances alone. But if, in such case, the labor should become protracted, rather than allow the mother to run any risk under the efforts of natural expulsion, I would not hesitate to lessen the head, especially if there existed the least relative disproportion.—*Ramsbotham's Practical Observations on Midwifery.*

MISCELLANEA.

6. *Necrology.*—Dr. Hahnemann and Mademoiselle Le Normand.—The following notice of the decease of these two personages, is given by the

European correspondent of the National Intelligencer, (Mr. Walsh,) in a letter dated at Paris, on the 6th of July:

The most remarkable name on our obituary list is Dr. HAHNEMANN, the Great in Homœopathy, whose system has occasioned the emission of as many tracts, if not books, as any other in the profession most fruitful of systems, and has made considerable progress in both hemispheres, in spite or by reason of extensive and vehement opposition. He died here last Sunday, nearly ninety-three years of age. Whether he ever needed or practised for himself his main theory, I am not informed. I have seen at his door a throng of fashionable vehicles, which indicated his extraordinary vogue; and some of his patients relate that his French wife, (the second,) who was born forty or more years after him, was as frequently and sanguinely consulted as the veteran oracle himself. You will find a brief notice of his career in my roll of extracts. He must have amassed a large fortune. Next in note is the loss of the fortune-teller, Mademoiselle LE NORMAND, whose fame equalled that of any of her numerous profession of any era. She had predicted that she would reach the age of one hundred, but she went a little only beyond four score. This circumstance impairs her posthumous glory. While the humble pretenders to the same powers, the *poor* witches and sorcerers, in town and country, were objects of police vigilance and pursuit, and of judicial reproof and sentence, the high priestess of the Rue de Tournon enjoyed, not impunity alone, but profound deference from all quarters; her door was besieged by all classes; her fees were graduated from one hundred and fifty francs to ten; her imposture flourished half a century: her funeral honors, civil and religious, rivalled those of a pious duchess; it is probable that she died as rich as HAHNEMANN; her habits were parsimonious in the ratio of her gains. The opportunities of this woman for insight into human nature were without example. During the Revolution, the chiefs of the conflicting and the successive parties, and numbers of the victims of the several dominations, applied to her in regard to their own destinies or those of the objects of their jealousies and animosities; her celebrity was confirmed and enlarged after the downfall of Napoleon, from the common belief that she had predicted to him and Josephine, exactly, their respective fates, before they were united. It is certain that both seriously communed with her omniscient muse at different epochs after their elevation. The newspapers now tell of her coarse dishabille; her dirty cards and fingers; her pot boiling near her velveted arm-chair! the closing of her eyes as she revolved her prophetic tale; her race of cats; her library of black-letter volumes suited to her pretensions; her management in making herself acquainted with the personal history and peculiar characters of her probable visiters or the eminent individuals whom she wished to attract. It would seem that Mademoiselle was an exceedingly shrewd observer; could detect much from face and deportment; paltered in a double sense with the utmost skill; and turned fully to account the curiosity, credulity, and notoriety which she contrived to perpetuate.

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7. *A new Meteorological Instrument.*—A letter from Dochefort says: "We have lately had here a trial of a new instrument intended to show the probable courses of the winds. It consists of a thin piece of wood, three or four inches long, freely balanced, as the needle of a mariner's compass, on a steel pivot, by means of an agate inserted in the wood. At one of the extremities, about a third of the length, there is made a slit, in which are placed three or four magnets, about half an inch from each other. They are formed of bits of flattened watch-spring, from one to three inches in length. They are fixed perpendicularly to the horizon, and therefore free from all polarity. They all have their south pole above the bit of wood, and their north pole below it. The magnets act exactly as the directing finger of a weathercock, and show the direction of the wind The instrument may furnish interesting instructions with respect to the connection between magnetism and electricity, on the probability that the variations of the winds are due to electric currents. What renders it of great importance is the fact that these indications take place a quarter of an hour, and sometimes even half an hour, before the changes which occur in the winds, as those of the barometor do in the variations of the weather."

2.

American Medical Intelligence.

Extraordinary Case, in which the arm was torn off at the Shoulder-joint, by machinery, communicated to Prof. Willard Parker, by Jas. S. Cooper, M. D., *of British Guiana, South America.*

I was called to a neighboring plantation to see Daniel, aged about 7 years, son of one of the laborers. On arriving, I found a case of a very serious nature. The boy, while playing about the sugar-mill of the estate, had been caught in some of the machinery, and his left arm was torn off, bringing with it about two-thirds of the scapula. The deltoid muscle was carried away entire, and the trapezius was torn from its attachment to the clavicle, the naked end of which bone was protruding through the wound. Notwithstanding the very large amount of surface exposed, there was not the slightest hemorrhage, although reaction had fairly taken place.

With the assistance of Dr. Walker, the medical attendant of the estate, I proceeded to dissect out the remainder of the scapula, (the inferior and posterior portion.) A little bleeding ensued from the scapular arteries, but it soon ceased on pressure being made. Then, with a small saw, I removed the external third of the clavicle. As there was no necessity for tying a single vessel during the whole operation, the wound was now closed with sutures and adhesive straps; and the dressing was finished, by applying a compress and roller around the body. The patient bore the operation well, and soon after fell asleep.

Dec. 16. Considerable febrile action—pulse 120—tongue furred—wound rather painful. Ordered a slight purgative and left him.

20th. Every thing has gone on well up to this day; the wound was dressed; about half of it had united by the first intention, and the remainder is suppurating kindly. There is no fever; and the patient is every way comfortable, sitting up in bed, he having taken a full meal. The sutures were removed; and from this time onward he recovered rapidly.

Liquor of Hydriodate of Arsenic and Mercury, in Cutaneous and Uterine Affections. By Isaac E. Taylor, M. D, of New York.—This new chemical combination was first recommended to the profession by M. Donovan, in the Dublin Medical Journal. Having prescribed this preparation in a number of cases during the previous eighteen months, Dr. Taylor presents a detail of them in the April number of the American Journal of the Medical Sciences. He is decidedly of opinion that it produces a more marked effect than the various remedies usually resorted to, in those intractable forms of disease, Lupus, Rupia, Psoriasis, Secondary Venereal, etc.

Case I.—*Lupus exedens of the Nose.*—Diretta Dridwhotten, aged 74, born in Germany, and exceedingly fleshy. When first seen had blackish incrustations around the left ala, and on the septum nasi, a portion of the ala having been removed by ulceration, and causing by its contraction the nose to be drawn to one side. A string of tubercles, the size of buck-shot, extended from the external canthus to the internal, and from the internal up the nose to the forehead. The lower eyelid was everted to its full extent, exposing the conjunctiva palpebralis, and producing an unpleasant deformity to look upon. Several of these tubercles were ulcerated, and had brown crusts upon them. The disease commenced twenty years ago on the left angle of the nose, which was accidentally struck by a whip, and shortly ulcerated. This was after a time healed by a French physician, with an external application; it, however, broke out again, and has since gradually progressed, till it has reached this extent. Her general health good. Various remedies have been tried in her case, but without mitigating it in the least. After the bowels were regulated, and advice given as to her diet, she was placed upon the solution, five drops three times a day, with a table spoonful of water. She continued taking the 'liquor' till October, when it was applied locally to the part, and after a short time it was perfectly healed, the dark and black incrustations were entirely removed, and a clear shining surface exposed, the unpleasant fœtor and discharge ceased. The tubercles around the lower eye-lid were reduced even with the skin, except a very large one at the external canthus; the lid has recovered nearly its natural position, and the conjunctiva saved from being exposed to the action of the air. After a month it commenced its work again on the nose, but was a second time arrested, and to this date has not returned, but presents a surface healed through its whole extent in the nose. The only tubercle at present remaining is the one at the external canthus of the eye that has a crust upon it.

Passing over the remaining cases detailed by Dr. Taylor, we come to his "Remarks," in which he cautiously and justly observes:

"Whatever doubt may exist as to the exact nature of these cases, the length of time some of them have been affected, and the benefit they have derived from the use of the remedy, must go far to urge its trial in the chronic affections of the skin."

In addition to the evidence here presented in favor of the "*liquor hydriodatis arsenici et hydrargyri*" in certain chronic cutaneous affections, we are enabled to lay before our readers the further experience of Dr. Taylor, as presented in the following communication:

New York, August 20, 1843.

Mr. Editor: Since the article from which the preceding extracts have been taken was published in the April number of the American Journal of Medical Sciences, several cases of Lupus, with various other eruptive diseases, have come under my notice. The total number of lupus cases (exedens and non-exedens) which have fallen under my observation during the last fifteen months, has been twenty-two; eighteen in my own practice, and four in that of other gentlemen. The efficacy of the "liquor" has been more particularly observed in Lupus owing to its obstinacy in yielding to any constitutional remedies, and the exceedingly important benefit accruing from its use; yet of infinite and decided advantage in the more intractable form of the other eruptive diseases. As respects Lupus, I would here remark that there is a feature in its diagnosis which has escaped the attention of all the authors on the subject, which is, its predilection for the left side, whether of the exedens or non-exedens, or vorax form; whether occurring on the cheek, the arm, or the body, the left side has almost invariably been affected, only two cases out of the twenty-two exhibiting it on the right side. A second feature worthy of note, so far as my experience has gone, is that females are more especially subject to it, not one of the cases I have seen being in a male; the proportion being much greater than that of Royer's, nor has it obtained, agreeably to Royer, in scrofulous patients, or those predisposed to scrofula; nor in conformity to the opinion of Plumbe, that the cachectic system was always manifest in the cases he saw; on the contrary, fully two-thirds the patients under my charge were of healthy appearance and constitution, the secreting functions being free, and the chylopoectic viscera not disturbed, and in several cases it was observed in its incipient state in all its forms; and as it is seldom that it comes under the eye of the pathologist, at its commencement, it becomes difficult to determine whether it originates in unhealthy inflammation, or always with a tubercular elevation of the cutis; and, as various opinions prevail on this point, I am induced to join in the opinion of Biett, that tubercles are not the elementary lesions in every case of lupus, but that it is attended from the commencement with simple erythema.

From the number of cases stated, it will be observed that what was considered a rare disease, and of great rebellion, has become more frequent, and not only can be ameliorated in its extensive ravages, but frequently cured for a long time, as some of the cases have been seen, and it had not returned in them. This frequency might very justly give rise to the question whether these were all cases of lupus? or whether some of them were not tubercular syphilis, a disease they are more nearly allied to than any other, and which in some suspicious cases, (where only the tubercles are evolved) it is exceedingly difficult to determine; but the well-marked characters so frequently noticed in the secondary disease, militates greatly against a mistaken diagnosis.

Respecting the non-exedens form, the treatment with the Donavan's liquor has proved of no benefit, nor has it answered when applied locally, nor has any treatment, whether constitutional or local, been of benefit, but when locally applied had a tendency to aggravate it. In one case, much benefit was derived from acetic acid applied locally; still, in others it failed. The smallness of the dose has not been changed, but in one instance, when it was raised to ten drops. Ptyalism has not been observed in any other cases but those reported, when it has been continued for over six months, nor has any affection of the bowels exhibited itself under its use; and it affords me pleasure to add my further experience respecting its value in the eruptive diseases in all their chronic forms, particularly in that of lupus, so intractable, destructive, and formidable.

Isaac E. Taylor.

DOES SEA-AIR, *per se*, ARREST THE CATAMENIA ?

Mr. Editor: In the first Number of your valuable addition to our medical periodical literature, I noticed a paragraph from the "American Journal of the Medical Sciences, headed "Arrestation of the Catamenia by the Sea-Air." My observations and experience coincide with the writer, that fully two-thirds of the Irish emigrants suffer from suspension of the menstrual discharge, dating from the time they enter on board ship; but I have not been led to ascribe this functional derangement of the uterus to the influence of the sea-air. I think, if we examine the circumstances under which the majority of these poor, but warm-hearted, daughters of Erin, are induced to expatriate themselves for their own and their country's good, and if we take, at the same time, the observations we make as the ground for our reasoning, we shall find no difficulty, on well-known physiological laws, in accounting for the suspension of the menstrual flux. We shall accelerate the advancement of medical science much better by submitting medical phenomena to a rigid analysis, in the hope of discovering the cause and tracing the effect, than in catering after the marvellous and wonderful. A greater evil cannot be perpetrated on medical science, than the too hasty jumping to a conclusion; that is, the placing as the cause of a phenomenon what is only an accidental concomitant, and one which has no influence whatever in its production.

The influence of the passions, either of excitement or depression, is familiar to us in their effect upon the secretions; and no part of the animal economy is more alive to these impressions than the generative organs of the female. I have found, on making inquiry of those who have applied to me for medical assistance, that the majority of them have crossed the broad Atlantic unattended by either a friend or relative, being induced to commit their fortunes to this adventure from flattering representations held out by those who had previously immigrated here. Now, connect this loneliness with the discomforts, ennui, and miseries of a long sea-voyage, and contrast it with their previous habits,—many of them having never before left the place of their birth the distance of ten miles. Again, imagine the heterogeneous admixture of human beings by whom they are surrounded,—persons who would be the last in the world to attempt to calm the anxiety of these poor girls, but, at the same time, the most ready to obtain amusement at the expense of their fears. Then add to this, the disturbance of the cerebral faculties by sea-sickness, particularly the constant vertigo maintained by the pitching and rolling of the ship. Viewing the cases of these girls in this light, we bring to our aid what we witness daily in practice, viz., the effect of impressions made upon the brain, in powerfully influencing vascular action and organic function; and hence we can experience no difficulty in accounting for a train of sympathies being set up, which must interfere with the healthy functions of so sensitive an organ as the uterus.

Although a suspension of the menstrual discharge has been the prominent symptom introduced to my notice in all the cases brought before me, yet I have invariably found it combined with other functional derangement. The digestive apparatus is invariably implicated in connection with a great degree of cerebral disturbance, as well as nostalgia, which is always a prominent feature.

As respects the treatment, I have not met with the disappointment of Dr. Taylor; and I have not consequently been induced to leave it in the hands of time. Baglivi speaks of the conversations of physicians as having great influence upon the health of their patients—a principle which, if not better understood, is certainly more profitably employed by empirics than by the regular practitioner. A few words of encouragement, coming from the physician, will, in the cases now under consideration, be of as much real service as the most appropriate prescription. I generally commence the treatment with a mercurial cathartic, ordering an aloetic purgative, combined with some of the fœtid gums, to be taken every night, so as to keep up a slight impression upon the alimentary canal. At the same time, I direct an infusion of columbo to be taken during the day, and recommend the use of the pediluvium or the hip-bath. Under this treatment I generally find. in the course of a month or six weeks, and frequently sooner, my patients restored to health, with a return of that secretion, the regularity of which depends upon the degree of happiness enjoyed by a large proportion of the human species. J. B. Griffin, M. D.

The Medical Schools of the City of New York.—We have received the annual announcement of Lectures of both these flourishing Institutions. In the College of Physicians and Surgeons, the Medical Class of last session numbered 120, and the catalogue of the Medical Department of the University of New York, gives a total of 271. In the former, the Trustees announce the appointment, by the Regents of the University, of Alexander H. Stevens, M. D., as President of the College, in place of John Augustine Smith, M. D., resigned; while the professorship of

Physiology, heretofore held by the late President, has been consolidated with that of Anatomy.

It is scarcely necessary to add, that both these Institutions possess the most ample arrangements for giving a full and thorough course of instruction, both theoretical and practical. The experience of the few last years has clearly demonstrated that here, in the American Metropolis, numbering its 400,000 souls, the cultivation of medical science must advance. In its local advantages, consisting of Hospitals, Dispensaries, Infirmaries, and private charities, with the *materiel* for anatomical pursuit both ample and cheap,—in a word, with all the facilities for a complete course of medical instruction, the best interests of the pupil cannot fail to be subserved. Besides, good board can be obtained as moderately here as in any other locality of a medical school. It is thus seen that the city of New York embodies all the elements requisite for the establishment of great medical institutions; and, judging from the experience of the last two sessions, the opinion that there will be, next winter, 500 medical students in this city, is warranted. In our previous Number, we pointed out the advantages offered to the student, by the New York Hospital School of Medicine.

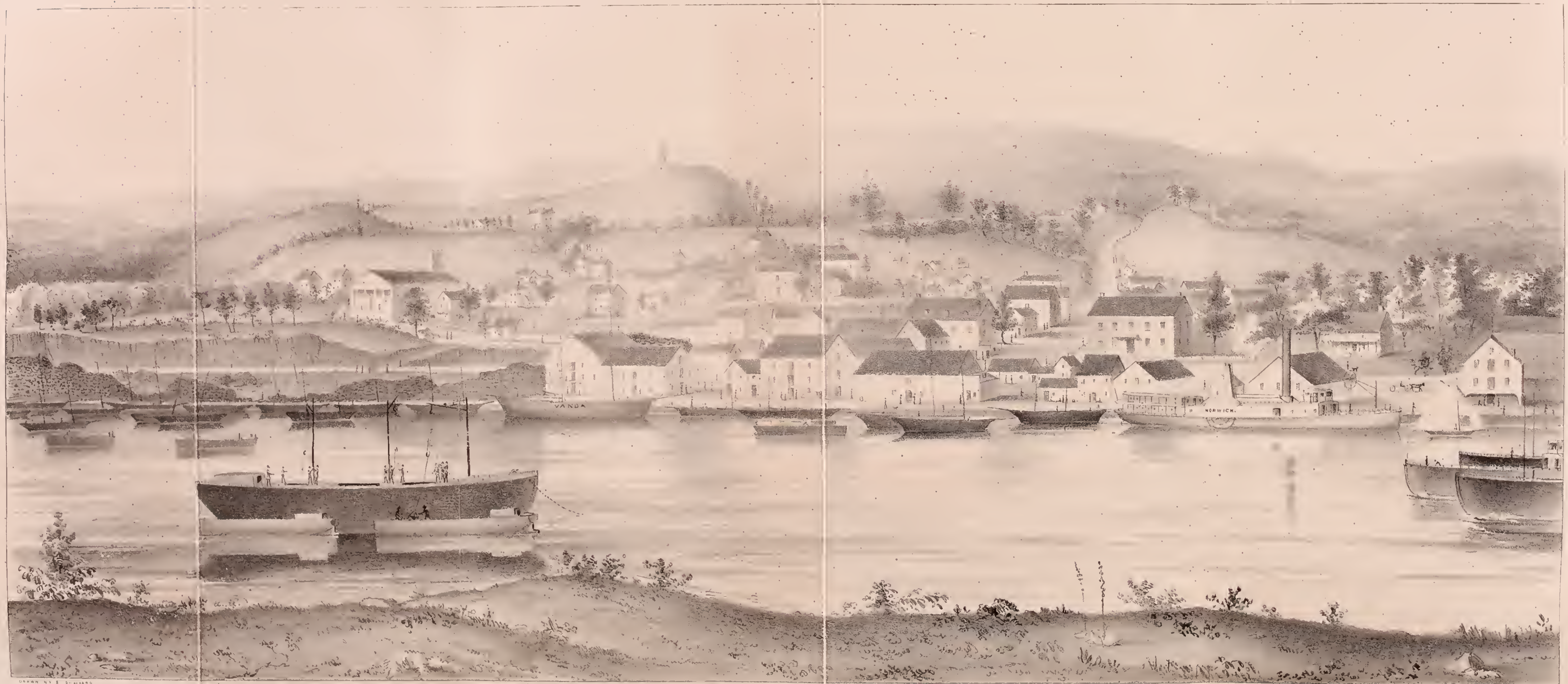
Medical School of Georgia, at Augusta.—We have received the annual announcement of this College, which seems to be in a very flourishing condition. The class in attendance last year greatly exceeded in number that of any preceding year, it having numbered 128, of whom thirty-eight had conferred upon them the degree of Doctor of Medicine.

Castleton Medical College.—We have also to acknowledge the receipt of the annual announcement of this school, which seems not less flourishing than those just noticed. The class of the Spring session of the current year numbered 105, while the graduates *in course* were twenty.

—

Yellow Fever at New Orleans.—The appearance of this baneful disorder is again officially announced in this city; but, notwithstanding its annual visitation in this locality almost with the certainty of the varying seasons, New Orleans may be justly regarded as a healthy situation during nine months of the year. Situated on a mighty river's bank, formed of the alluvion of its own current, Yellow Fever is here invariably regarded as an endemic—a disease of season and locality. When the thermometer indicates summer heat, every one of its citizens looks out for this unwelcome visitor; and, on the other hand, when the same scale indicates the decreasing temperature of approaching winter, it is known, with still greater certainty, that the enemy must depart. No one here supposes it, for a moment, to be a *contagious* disease—a conclusion which the experience of almost every year exemplifies. Thus, although vessels laden with fugitives from the fell destroyer, ascend, for example, the Mississippi, by hundreds at this season; yet the disease, notwithstanding the fatal *black vomit* appears on the decks as they pass along, is never manifested among fellow-passengers from uninfected regions; nor is it, under like circumstances, ever communicated to the inhabitants of the district to which they may fly. Here, one attack, as a general rule, secures a future exemption from the disease, which is now admitted, with scarce an exception, to be *sui generis* in its character.

This disease, that is, a case or two, has made its appearance, it is said, within a few days, at the Quarantine Hospital of our city, on board a schooner from Point Petre, Guadaloupe, and 16 days from St. Martin's, laden with a cargo of salt.



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RONDOUT, NEW YORK.

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☞ All letters in regard to the *business* department of the Journal, and all remittances of money, should be addressed *exclusively* to the publishers, Messrs. J. & H. G. Langley; but Books for Review and Communications designed for publication, should be directed, *free of expense*, to Samuel Forry, M. D., Editor of the New York Journal of Medicine, care of Messrs. J. H. G. Langley. Persons at a distance may direct parcels, paid as above, under cover of Barrington & Haswell, Philadelphia, W. D. Ticknor, Boston, and Wiley & Putnam, London.

Postmasters, it will be borne in mind, are authorized by law to frank letters containing money for the subscription of periodicals.

⁂ For Prospectus, see fourth page of the cover.

TO READERS, CORRESPONDENTS, ETC.

Can a Medical Journal be sustained in New York?—This is a question not unfrequently asked, and we believe very generally answered in the negative. As we have now the experience of issuing the third number of this Journal, constituting its first volume, we may be permitted to say a word upon this point.

With the publication of the second number, this Journal became *permanently* established, so far as this end can be secured by a list of subscribers; and since then, the Medical Bureau of the Army at Washington has ordered a sufficient number of copies to supply the entire medical staff. So successful has been the short career of this Journal, that our substantial and enterprising, but at the same time prudent, publishers, have felt themselves warranted in printing 1250 copies of this number. Moreover, it has been found necessary to *reprint* the first number.

Let us be understood to say all this in a proper spirit of humility; and as an evidence of our prosperity, the January number, commencing Vol. II, will appear in a new and improved dress, so far as the typographical appearance is concerned.

The Journal will be hereafter characterized by a new feature—the introduction of meteorological observations upon an improved and extended mode of investigation. This will include the barometer, the thermometer attached and the thermometer detached, the pluviometer, Daniell's hygrometer, the wet bulb, and observations upon the clouds, the clearness of the sky, and the force and direction of the winds. These observations will consist of those taken at Fort Columbus, in the harbor of New York, under the direction of the Medical Bureau of the Army. Through the kindness of the Surgeon General, we have been already favored with the observations of the last two months, but the paper came too late for insertion in the present number.

Contributions have been received from Drs. Buel, Goldsmith, Quackenbush, and McCready. Also from C. H. S., whom we would inform that no anonymous communication is admissible.

The following works have been received:

Elements of Chemistry, including the applications of the Science in the Arts, with numerous illustrations. By Thomas Graham, F. R. S., L. E. & D., Professor of Chemistry in University College, London, etc. With notes and additions by Robert Bridges, M. D., Professor, etc. Philadelphia: Lea & Blanchard, 1843. (From the Publishers)

Principles of Human Physiology, with their chief applications to Pathology. Hygiene, and Forensic Medicine. Especially designed for the use of students, With over 100 illustrations. By William B. Carpenter, M. D., etc. First American edition, with notes and additions by Meredith Clymer, M. D., etc. Philadelphia: Lea & Blanchard, 1843. (From the Publishers.)

A Classical Dictionary: containing an account of the principal proper names mentioned in ancient authors, and intended to elucidate all the important points connected with the Geography, History, Biography, Mythology, and Fine arts of the Greeks and Romans: together with an account of coins, weights, and measures, with tabular values of the same. By Charles Anthon LL. D., Jay Professor of the Greek and Latin Languages in Columbia College, etc. New York: Harper & Brothers, 1841. (From the Publishers)

A Dictionary of Greek and Roman Antiquities. Edited by William Smith, Ph. D., and illustrated by numerous engravings on wood. First American edition; carefully revised, and containing numerous additional articles relative to the Botany, Mineralogy, and Zoology of the Ancients. By Charles Anthon, LL. D., etc. New York: Harper & Brothers, 1843. (From the Publishers.)

Our limited space compels us to postpone until the next number, the acknowledgement of some of the books sent to us for review; such as Churchill's Midwifery, Braithwaite's Retrospect, Raciborski's Auscultation, Elliotson's Practice of Medicine, Curling on the Diseases of the Testis, etc., Walshe on Cancer, Aran on the Diseases of the Heart and Great Vessels, Andral on Diseases of the Chest, Stewart's Hospitals and Surgeons of Paris, Kennedy's Obstetrical Auscultation, with various Introductory Lectures, and Journals in exchange.

THE NEW YORK

JOURNAL OF MEDICINE.

FOR NOVEMBER, 1843.

PART FIRST.

Original Communications.

Art. I.—*Account of a Malignant Fever which prevailed at Rondout, Ulster County, New York, in the months of August and September,* 1843, *with an Inquiry into its Nature and into the Question of its Importation by the Schooner Vanda; based upon an Investigation of the Disease at Rondout, during nineteen days, and upon the private Correspondence of the Mayor and Resident Physician of the city of New York.*—By the Editor. Dedicated to the Board of Health of the City of New York.*

[With a lithographic view of the Village of Rondout.]

In all ages of the world, the dread of pestilential diseases, which have, from time to time, swept over vast tracts of the earth's surface, has exerted a most decided influence, in the way of fear and terror, upon the human mind. At Rome, *Febris* had her altars and temples in the palace; but in the year of their city 461, when a pestilence prevailed which their domestic gods could, or perhaps *would,* not drive away, the Romans sent a solemn embassy to Epidaurus, famed for having been, in the mythological legends of Greece, the natal place of Æsculapius, in order to obtain the sacred serpent nourished there in the temple of the God of physic and physicians.* Thus did the sage fathers of Rome quiet an excitement upon the subject—we will not say of *yellow fever*, inasmuch as neither AURUS CORNELIUS CELSUS nor CLAUDIUS GALENUS deigns to treat upon the disease; but we opine, let the pestilence have been what it may, that the measure was not less efficacious than that of a "proclamation" of non-intercourse adopted, under somewhat similar circumstances, by the fathers of a more modern city. In this remark, we do not of course, as will be seen in the sequel, intend any disparagement to our Board of Health, which must, to some extent, be an exponent of public sentiment. The Board, it will be seen, was, in fact, without an alternative.

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* This paper having been laid before the Board of Health, the following action was taken upon it:

Resolved, That the "Account of a Malignant Fever, which prevailed at Rondout, Ulster county, New York, in the months of August and September, 1843, with an inquiry into its nature and into the question of its importation by the schooner Vanda, based upon an investigation of the disease at Rondout, during nineteen days, and upon the private correspondence of the Mayor and Resident Physician of the city of New York," presented to the Board of Health by Dr. Forry, be ordered on file.

Resolved, That the thanks of this Board be, and hereby are, tendered to Doctor Forry for the said publication so presented to them.

Resolved, that the clerk of this Board transmit a copy of these resolutions to Dr. Forry.

Adopted by the Board of Health, October 25th, 1843.

Robert H. Morris,
Mayor of the City of New York and President of the Board of Health.
Samuel J. Willis, Clerk of the Board of Health.

The modern example to which we refer, is the popular excitement that has been recently evinced, as the result of the supposed introduction of *Tropical Yellow Fever* at Rondout, alleged to have been imported from the West Indies by the schooner Vanda. So intense did this excitement suddenly become that the Board of Health of the city of New York, at a special meeting, convened on a *Sunday*, proclaimed a temporary non-intercourse, until the subject might undergo proper investigation. Within the space of several days, the whole country for hundreds of miles was thrown into a ferment of agitation and apprehension. This fear was so strongly manifested by the towns along the Hudson, as Rhinebeck, Poughkeepsie, etc., that the barges of these towns, carrying products for the market of the city of New York as well as passengers, were no longer allowed to be transported by the steamers which occasionally lay at Rondout, notwithstanding a contract for the whole season of navigation. More than this, the steamboats of the Hudson, notwithstanding Rondout is two miles from its place of landing, would no longer touch on the same side of the river. Rondout thus, in a few days, was brought to the point of suffering a suspension of its business operations; and this business, it will be seen, in consequence chiefly of being the outlet of the Delaware and Hudson Canal, is of a very extensive character. Deserted by the surrounding country upon which Rondout relies in part for subsistence, the inhabitants, had the non-intercourse with the city of New York been continued, would have been even threatened with starvation!

As the panic thus excited, and the rapidity of its march, cannot be realized by those who did not witness it, we make this permanent record of it for the benefit of posterity, who will surely place it in the same category of historical events with that of the solemn embassy sent by the Romans to Epidaurus, to procure the sacred serpent.

The first official notice of this malignant fever is the following proclamation and proceedings of the Board of Health:

MAYOR'S OFFICE,
New York, August 27, 1843.

PROCLAMATION.

Whereas, at a special meeting of the Board of Health convened in the City Hall, on Sunday evening, the 27th instant, information was received that a malignant fever is prevailing at the villages of Rondout and Kingston, in the county of Ulster. And whereas, the health of the City of New York, as appears by the report of the Resident Physician, is unusually good at the present time, and in order that it may remain unimpaired, *Now therefore*, I, Elijah F. Purdy, Acting Mayor of the City of New York, pursuant to the direction of the Board of Health, do hereby declare and make known, that all intercourse is hereby prohibited between the city of New York and the villages of Rondout and Kingston, in the county of Ulster, from the date of this Proclamation, until Wednesday, the 30th of August, 1843, at 12 o'clock, noon, in order that time may be afforded the Resident Physician, who has been deputed to visit the above places for that purpose, to obtain correct information on the subject. I do, therefore, hereby give notice to each and every person, that they will be liable to fine and imprisonment if they contravene or violate the provisions of the law relative to infectious and pestilential diseases. And all persons are hereby required to aid and assist in the execution and enforcement of the law in conformity with the tenor and true intent of this Proclamation, by every means in their power.

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* Anthon's Classical Dictionary, article *Æsculapius.*

Witness my hand and seal this 27th day of August, 1843.

ELIJAH F. PURDY, Acting Mayor.

SPECIAL MEETING OF THE BOARD OF HEALTH.

AUGUST 27, 1843.

Present, Elijah F. Purdy, Acting Mayor; Aldermen Dunning, Nash, Vandervoort, Briggs, Brady, Pattison, Henry, Dougherty, Ward, Nichols, Seaman, Pettigrew; Doctor Vaché, Resident Physician, and Dr. Harris, Health Commissioner.

The Acting Mayor stated that he had convened the Board together in consequence of receiving a communication from the Resident Physician, informing him that a letter from H. M. Romeyn, of Kingston, had appeared in the newspapers stating the existence of yellow bilious fever in that place.

NEW YORK, August 27th, 1843.

To Elijah F. Purdy, President pro. tem. of the Board of Health:

Sir—Through the newspapers of this morning, by the publication of a letter from Mr. H. M. Romeyn, of Kingston, I am of the opinion that sufficient cause exists for the convening of the Board of Health.

Should the disease, said to have appeared at Kingston, be the yellow fever, arising from the recent visit of the schooner Vanda to that place, the same necessity exists for a non-intercourse between it and this city as would with any other portion of the world.

With great respect, your obedient servant,

ALEXANDER F. VACHE, Resident Physician.

Whereupon, on motion of Ass't. Ald. Brown, a committee was appointed fo the purpose of ascertaining the authenticity of said letter.

The acting Mayor appointed Assistant Ald. Brown, Ald. Briggs, Assistant Ald. Henry said committee, who soon returned and reported that said communication was authentic. The report was accepted and the committee discharged.

The Acting Mayor presented the following resolution, which was adopted—viz:

Resolved, That Dr. Alexander F. Vaché, Resident Physician, be authorized to proceed forthwith to Kingston and report immediately to the Board of Health the character of the disease said to exist at said place, with such other information as he may deem of importance.

Assistant Ald. Brown presented the following resolution, which was unanimously adopted, viz:

Resolved, That his Honor the Mayor be requested to issue his proclamation, prohibiting all intercourse with the villages of Rondout and Kingston, in Ulster county, from this day until Wednesday next, at 12 o'clock noon.

The Resident Physician reported the city unusually healthy, and that no case of yellow fever or malignant fever had occurred.

Alderman Nash moved that the letter of the Resident Physician addressed to the Acting Mayor be published as part of the proceedings of this meeting, which was adopted

Assistant Ald. Pettigrew presented the following resolutions, which were adopted, viz:

Resolved, As the opinion of this Board, that to preserve the present good health of the city, it is all important that great care should be taken to remove all nuisances from any and all premises about the city; and that the Health Wardens and Street Inspectors, as well as citizens, report all cases of neglect to the City Inspector or the Aldermen and Assistant of the severa wards of the city, that the same may be promptly attended to.

Resolved, That the Health Wardens and Street Inspectors of the several wards are hereby instructed to be prompt in enforcing the law in relation to all cases of neglect of nuisances removed.

Resolved, That the proceedings of this meeting be published in all the morning papers.

On motion, the Board then adjourned.

Samuel J. Willis, Clerk.

Board of Health, Aug. 29, 1843.

The following letter was received from the resident physician, Dr. Alexander F. Vaché, and on motion of Alderman Scoles, the same was directed to be published.

Rondout, August 28th.

To the President of the Board of Health of the City of New York:

Sir,—I reached here at noon, and have since been employed in visiting the sick, and in receiving information from the physicians of the village. That a fever prevails here to some extent, cannot be disputed; but as most of the cases that I have seen are more or less convalescent, I have concluded not to return to the city until to-morrow, in order that I may reach a more correct decision as to the character of the disease, by watching its progress in two individuals attacked within the last twenty-four hours, the more especially as the physicians of the place unequivocally assert that they have seen the same disease for the last two or three months. From all I have been enabled to collect, it appears that there have been about eighteen cases since the visit of the schooner Vanda, and three deaths; the population is about 1800.

A. F. Vache.

P. S.—Should the period of non-intercourse between the city and the village of Rondout expire before I have the opportunity of again communicating with the Board of Health, I would recommend that it be not renewed, as I do not think there is any cause for the great alarm created by the letter of Mr. Romeyn. I expect, however, to be in the city previous to that time.

Board of Health, August 30, 1843.

Present—Elijah F. Purdy, Esq., Acting Mayor, Aldermen Clayton, Tillou, Nash, Brady, and Rawson; Assistant Aldermen Henry, Brown, and Smith.

The following communication was received from Dr. Alexander F. Vaché, Resident Physician.

New York, August 30, 1843.

To the Board of Health:

Gentlemen,—In accordance with the instruction of the Board of Health, I proceeded immediately to Rondout in order to collect the facts and observe the character of the disease alleged to prevail in that village. From the information derived from the principal physicians of the place, Drs. Stringham and Elting, it appears that the same form of fever occurred in their practice for about two months prior to the arrival of the schooner Vanda from the quarantine ground at New York, and that it now exhibits, in their opinion, no new features, unless it may be an aggravation of the symptoms, and an increase in the number of the persons it attacks. In connection with this fact, and from a personal visit to the sick, I am of opinion that the disease, as it now appears, is bilious remittent fever, readily yielding to active medicines, and attended with none of the aggravated and malignant characters of yellow fever. That the attack of the captain of the Vanda, the mate, one passenger, and the pilot, as well as a number of persons living in the village, after the arrival of the schooner at Rondout, forcibly leads to the opinion of a connection between the vessel and the disease cannot be denied; yet when it is taken in connection with the positive and unequivocal assertion of the physicians, that they attended cases of the same fever in the place prior to the arrival of the Vanda, it is but just to infer that no connection can be traced between them.

Under the circumstances, I would, therefore, suggest, for the consideration of the Board of Health, the absence of any actual necessity for the continuance of the non-intercourse between the two places, especially as it has now expired, and can be immediately resumed, should the disease assume a different type. No disease of a similar nature, on the assurances of Dr. Nelson, has appeared at Kingston.

As a precautionary measure, I obtained a promise from Drs. Stringham and Elting, to keep me daily informed of the cases which now exist, as well as of any others that may occur. I also addressed a note to Dr. Nelson, of Kingston, and to the Rev. Mr. Carl, of Rondout, requesting of them the favor of the same information.

The number of cases, as near as I could ascertain, was sixteen—the two last between Saturday and Sunday last; the number of deaths, three. No more were reported up to Tuesday evening.

It may not be irrelevant to add, that a portion of the village of Rondout is located on low, made-ground, immediately on the border of a creek, and about one mile from the Hudson River. It contains nearly two thousand inhabitants, and is amply furnished with all the requisites for the engendering and continuing of various forms of fever.

Respectfully, &c.
ALEX. F. VACHE, Resident Physician.

This panic met us in New England, whither we had gone for the purpose of recreation and of enjoying the salubrious country air; and we concluded, in view of the interest of our readers, to bring up our pleasure-trip at Rondout. On the evening of September 3d, we reached Kingston Point, two miles from Rondout; and here we had the first illustration of the effects of the panic in the report that an old negro in the vicinity, had the yellow fever. But the fact of his African origin, which implies almost an insusceptibility to the disease, was presumptive evidence that the report was a false one; and this opinion was fully verified by his examination.

We may here say that we did not go to Rondout to establish any pre-conceived opinions, but to collect all the facts accessible, and to lay before the medical public a comprehensive and an impartial view of the whole subject. We had no desire whatever to acquire newspaper notoriety, regarding such displays as rather unprofessional; but finding, on our arrival, the two physicians sick, who had agreed to keep the Resident Physician of New York, Alexander F. Vaché, M. D., apprised of the daily progress of events, we undertook the task of giving him the information by letter. It was not, however, until the Resident Physician requested the privilege of publishing extracts from our letters, on the ground of allaying public excitement, that we assented; and this correspondence we continued daily during our stay, which was a period of nineteen days. Although we have already expressed certain opinions in regard to the nature of this disease, yet we trust that our facts will not be the less impartial. Indeed, on the last day of our investigation at Rondout, we felt more impressed than on the first, with the truth of the language of the Psalmist, that "*pestilence walketh in darkness;*" and we may here add, as an illustration of the disposition of mankind to generalize from insufficient data, that the letters marked "private" and "confidential," which we almost daily received, and all of which were prompted by the best feelings of the human heart, urged us, at the distance of one hundred miles from the malignant disease, to be very cautious as to what we might write, inasmuch as the disease was certainly *yellow fever imported by the Vanda.* And we would here further state, that we are not so ignorant of wonder-loving human nature, as not to know that the vast majority of the community will continue to hug the stubborn belief, that this disease was yellow fever, and that it was imported by the Vanda, despite any array of facts that may be presented. We write, however, for the profession alone; and should any one not within that pale, do us the honor of perusing this article, we would beg him, with due deference to his general abilities, to bear in mind that we regard him incapable of comprehending this great question; and to this opinion we are led, on the ground that the subject involves many important collateral points, which our limits will not allow to be introduced here, and with which the medical reader is supposed to be already familiar.

We will add further, that in the execution of the present task, we merely perform a duty incumbent on us as the editor of a medical journal; and should the numerous facts that we have collected most faithfully, authorize conclusions opposed to the opinions of others previously expressed, we would beg such persons not to blame us but the facts themselves. Moreover, should any one, in the event of our committing errors of fact, be so kind as to point them out, we shall make the corrections in the following Number with much pleasure.

Before inquiring into the history of the schooner Vanda and her relation with the malignant disease that lately prevailed at Rondout, let us investigate the medico-topography of this locality; and to comprehend our description more fully, let the reader take a glance at the lithographic view of the village which adorns this Number of the journal.

Rondout is situated on the left bank of the river of the same name, about one mile from its debouchure into the Hudson, and one hundred miles from the city of New York. The Rondout winds through a broad valley between the Blue and Shawangunk mountains; and its head of navigation is at Eddyville, only three miles and a quarter from its mouth. The Walkill runs a north east course south of the Shawangunk mountain, receiving the Shawangunk creek, and uniting with the Rondout, eight miles from its mouth. The Rondout, which has a length of about fifty-five miles, is the great drain of this fertile region.

The Rondout, which is about one hundred and fifty yards wide opposite the village, has a narrow margin on its left bank, gradually widening from a mere point to perhaps one hundred yards; and this, which is called the "*strand*," constituting the business part of the village, was originally a sand marsh. It has been filled up by bringing down the ground from the hills; but this process is also going on naturally, as is illustrated in some of the store-houses on the wharf. One which we examined, had been built some thirty years ago, in such a manner that a man could walk upright under it; but now the ground has risen to a level with it, through the combined process of art and of the natural disintegration of the adjacent precipitous hills, mingled with the wash of the streets. During a heavy rain of some hours, we saw, for example, perhaps a hundred cart-loads of sand brought down this steep declivity. Upon this so-called *strand* and the steep acclivity of these hills, from whose summits primitive rocks project, is situated the village of Rondout, with a population of from fifteen to eighteen hundred. Of the inhabitants, fully one-third are of that class who depend for subsistence upon their daily labor; and these last are mostly immigrant Irish, with a few Germans, all engaged in discharging canal-boats and loading vessels. The houses directly in the rear of the strand, or chief business part of the village, have a foundation even higher than the tops of those immediately in front. The village generally has an elevation of thirty to fifty feet above tide-water, while some of the best dwellings have an altitude of about two hundred feet; and at a short distance in the rear of this last point, commences the table-land, which has an elevation of three hundred feet above the Hudson.

The village of Rondout, which has scarcely yet found a place upon our maps, has grown into importance within a few years, chiefly through the anthracite coal of Pennsylvania (Lackawana.) This coal is transported upon the Delaware and Hudson canal, which intersects the Rondout river at Eddyville; and so immense is the extent of this trade, that, during the season of canal navigation, sixteen hundred tons, upon an average, arrive and depart at this depot daily; while, in the winter season, there is here an accumulation of from ten to thirty thousand tons, to answer the demands of the spring market. Hence it is not unusual to see from forty to sixty vessels, (sloops and schooners,) lying at the wharf at Rondout, completely hidden in this deep ravine, even their highest masts being far overtopped by the table-land on the left-bank and by the abruptly precipitous hills arising directly from the right side of the Rondout.

Another article of commerce with which this region abounds, is the rock from which is manufactured hydraulic cement, especially valuable for its property of hardening under water; and in the immediate vicinity of the village is the quarry of the Hon. Abraham Hasbrouck, which has been extensively worked for the last five years; a passage of thirty feet in breadth and with perpendicular walls fifty feet high, having been excavated in the solid rock of a high ridge to the distance of six hundred feet.

In the view here presented of the physical features of this locality—rocky primitive hills covered with pines—no one will fail to perceive a combination indicating a salubrious position. There is, it is true, some marshy ground, perhaps two acres, on the Rondout, adjoining the village on the south-west; but, as these marshes have a sandy foundation, and are, like the flats of green meadow near the mouth of the Rondout, swept over by the tide each day, no deleterious influence can be referred to this source. Nor can the new-made ground of the *strand*, consisting, as it does, mainly of the dry and gravelly formation of the hills, be regarded as productive, in a great degree, of malarious emanations.*

It has been accordingly found that this locality has always been pre-eminently salubrious, with the rare exceptions, as will be shown in the sequel, to which the most healthy places, in all parts of the world, are liable. During August and September of last year, for example, when dysentery and scarlatina prevailed, the mortality was equally high with this year; but then, as there was no panic of a contagious disease, what little excitement was produced was limited to the immediate spot. We have been informed by Mr. Hasbrouck, already named, to whom we are indebted for other interesting facts, that this place, where he has resided for the last 48 years, has always been favored with more than an average degree of healthfulness.

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* Although in the United States, it is the rule that malarious diseases, other causes being equal, augment in proportion as the soil abounds in organic remains; yet it is found, in some other countries, that this law has numerous exceptions. Some of the dry and rocky localities, as in the Bermudas, are subject to the highest grades of yellow fever; but this last disease, which is now generally admitted to be specific in its nature, we are not, however, warranted in ascribing to a paludal origin.

We have been made acquainted with several highly interesting historical facts connected with this locality; but which, as they are not immediately relevant to its medical topography, we will present in the form of a note.*

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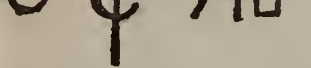
*This county, Ulster, was settled by the Dutch and some Huguenots as early as 1616; and to this day, the language of Holland is yet considerably spoken. This was the ancient Esopus—the Indian name adopted by the Dutch; and while under them, it suffered more from Indian hostilities than any other portion of the country. In October 1777, when the British under General Vaughan, burnt down the village of Kingston, then named Esopus, and then too one of the largest places in the province of New York, Rondout, then called "Esopus Landing," was also destroyed, with the exception of a mill and a house, the latter being yet a substantial dwelling. Even before the Revolutionary war, Rondout was the outlet for all the surplus produce of this district of country.

We here got access to a highly interesting record among the deeds of Mr. Hasbrouck, viz., a patent bearing the date of October 28, 1686, granted by Thomas Dongan, "Capt. Generall, Governor in chiefe, and Vice Admirall in and over the Province of New Yorke and Territoryes depending thereon, in America, under his Majesty, James the Second, by the grace of God, King of England, Scotland, France, and Ireland, defenders of the faith, &c." This patent was issued in the "second yeare of his Majestyes reigne" to Captain Thomas Chambers, it being a consolidation and confirmation of several other patents, and also of 300 acres of land, to which there was "no lawful owner, either Christian or Indian." This last tract of 300 acres was included on the ground that he, Major Chambers, (this patent also promoting him from a captaincy to a majority,) had cultivated and improved it, and in consideration also that said Captain Chambers "hath likewise signally behaved himselfe in the warrs against the Indians." The whole is granted under the title of the "LORDSHIP AND MANOR of FOXHALL."

We also traced the ruins of Major Chambers' family vault, which is on a knoll of greywacke, resembling an Indian mound, and covered with a light soil, which, however, supports large trees and other vegetation. The dilapidated tombstone has an inscription, of which the annexed wood-cut is a fac-simile:



This may be deciphered thus—16 *anno* 94, 8 *Thomas Chambers, April*, which means that Thomas Chambers, died on the 8th of April, in the year 1694. Major Chambers, when an old bachelor, married the widow of Van Gaasbeeck, the Domine of the Esopus Dutch Reformed Church, she being an accomplished lady from Amsterdam. As the Major died without issue, he willed the *Lordship and Manor of Foxhall* to the only son of his widow, on condition that he would assume the name of Chambers.

On this same knoll, we observed an important fact in natural history, namely a Pear-tree, doubtless 150 years of age, standing at the entrance of the vault. The trunk near the ground is now almost twelve feet in circumference, but forty years ago the trunk as well as the tree generally, was very much larger. It is referred to as a land-mark in a deed of 1714; and in 1815, when Mr. Hasbrouck had a litigation relative to a certain boundary line indicated by this tree, it was identified by three witnesses, all about 85 years of age, who averred that in their boyhood it was known as the "*old pear-tree*." It still bears excellent fruit, as we can testify from personal knowledge. From the position of this tree at the entrance of the vault, in which the body of Major Chambers was deposited 149 years ago, it is presumable that, if not then already a flourishing tree, it was about that time planted.

The name, Rondout, is generally supposed to be a corruption of *redoubt*, as there were here in recent years the remains of a fort said to have been built in the French and Indian war, just prior to the Revolution; but, in this deed of 1686, we find the name of the river written, "*round out kill*," *kill* being the Dutch for *stream*.

We are next to inquire what part the schooner Vanda played in the tragedy of Rondout.

The Vanda sailed from Baltimore with a cargo of lumber, bound for Point Petre, Gaudaloupe, where she arrived on the 27th of June. Having discharged her cargo, she sailed, July 13th, in ballast for St. Martin's, the crew being all well. Point Petre, however, was sickly; but whether it was a yellow fever or not that prevailed, cannot just now be determined. The schooner arrived at St. Martin's, July 15th. The chief mate, who had sickened on the day of sailing, was immediately taken ashore and placed under the care of the port physician, who pronounced his disease to be typhus fever. He died on shore on the 17th, the remainder of the crew continuing in good health. Having taken in a cargo of salt and pine-apples, the Vanda sailed, on the 22d of July, for New York, and arrived at quarantine on the 7th of August. A day or two previous to this, the steward and one of the men had been taken ill; and as soon as the vessel arrived, they were sent to the hospital. Both were affected, according to the records of the hospital, with mild remittent fever, and both were discharged perfectly well and able to work, the one on the fifth, and the other on the eighth day, after admission into hospital. As it was manifest to Dr. Van Howenbergh, the Health Officer, that neither of these men had labored under any malignant or contagious disease, he released the schooner from quarantine, after the forecastle had been whitewashed and the vessel ventilated, as well as the clothing and bedding washed. She now proceeded to Rondout, where she arrived on the 14th of August.

How far the Health Officer violated any quarantine regulation, by thus releasing the Vanda, is immaterial to the question here at issue. Suffice it to say that in regard to vessels wholly laden with *salt*, "being healthy and from *healthy* ports," a discretionary power is held by the Board of Health or by the Mayor and Commissioners of Health; but this power does not pertain to the Health Officer. As regards fruit, it is not, when in a sound state, subject to quarantine.

We will here introduce, independent of the records of the hospital at our Quarantine, the following papers upon which the above account is partly based:

Translation.

The undersigned garrison physician of the port of Philipsbury, Island of St. Martin's, certifies that the crew on board the schooner *Vanda*, commanded by S. Pierce, are all in *health*, and that there are no *contagious* or *epidemic* diseases prevailing in said Island.

——— Romondt, M. D.

St. Martin's July 20th, 1843.

The foregoing certificate is correct and true, and deserving of faith or belief.
D. Atwell, Port Captain.

The following affidavit by George H. Welles, a native of Pennsylvania, who returned in the Vanda from a valetudinarian tour to the West Indies, also, confirms the preceding account:

Ulster County, ss.

George H. Wells, of Wyalosing, Bradford County, Pennsylvania, came before me, J. S. M'Entee, a Justice of the Peace, of Ulster County, and being duly sworn, saith: I came a passenger in the Schooner Vanda, from St. Martin's to this place. Previous to our leaving St. Martin's, the mate of the Schooner Vanda, who was also a brother of the captain, was sick about five days, and died of typhus fever, as it was there called. I saw him the day he died, and attended his funeral, and saw him after he was dead, and I think he looked perfectly natural, and heard several remark that they did. Maj. Fields, the supercargo of the said schooner was also sick at St. Martin's, and I took care of him, or helped take care of him until he recovered; and I did not hear any one say that either the mate or the supercargo had yellow fever, or that there was any yellow fever at St. Martin's; and I further say that the two cases I have mentioned were the only cases of sickness that I heard of at St. Martin's. I consider it a very healthy place. I went out for my health, and think I improved while there. The physician of the port gave the master of the Vanda a certificate of good health, stating there was no contagious disease on board, well knowing at the time the two cases of sickness which I have mentioned. One of the seamen had been unwell at St. Martin's; got better, but was not able to do duty, but kept about decks, and remained so during the passage. About ten days out, the steward got sick, eating pine apples, which he said himself. Those two men were taken off at Quarantine, and were both put into a warm bath, and scrubbed; and the next day I saw them, and they appeared to be quite smart, and wanted beef. The schooner's cabin, state-room, and store-room, and forecastle, were all thoroughly overhauled and cleansed, by order of the health officer. After we had remained at Quarantine forty-eight hours, we proceeded up the North River to this place, where we arrived in four days after we left Quarantine. After we arrived at this place, the captain and mate were taken sick. The captain took lodgings at the Mansion House, and the mate staid on board. Until the Vanda sailed, a day or two after we arrived at this place, I began to feel more unwell; and the fourth day after our arrival I came to the Mansion House. Up to this time I had remained on board of the Vanda. I continued quite sick for about four days after going to the Mansion House, since which time I have been gaining, and am now quite able to proceed on my journey to my home in Bradford county, Pa.

These facts I have been induced to state under oath, in consequence of the excitement in this place on the subject of the Vanda's being supposed to have brought a contagious disease from St. Martin's.

G. H. Welles.

Sworn and subscribed before me, this 28th day of August, 1843.

J. S. M'Entee, J. P. of Ulster County.

The subjoined affidavit by John Riley, the chief mate of the Vanda, is of similar import:

Richmond County, ss.

John Riley, of the City of Baltimore being duly sworn, doth depose and say, that he arrived in the port of New York, in schooner Vanda, on the 7th August, of which vessel he was the chief mate at the time of her arrival at this port. Deponent further says, that he shipped on board said schooner at the port of Baltimore, and continued in that capacity until the arrival of said schooner at the port of St. Martin's, where the chief mate died of Typhus fever. Deponent further saith that said chief mate sickened before the arrival of said schooner at the port of St. Martin's, and was immediately sent on shore upon his arrival at said port. Deponent further saith that one of the crew sickened, while at St. Martin's, but not of fever; and in all other respects, the crew of said schooner was perfectly healthy; and he further saith that said schooner was at St. Martin's ten days, and that during said time, deponent did not know or hear of a case of fever or sickness of any kind, except the mate and seaman aforesaid of the schooner Vanda; and upon leaving the said port of St. Martin's, the schooner received from the authorities a clean bill of health. At the time of the Vanda's arrival at the port of New York, two of the crew were sick, and landed at Quarantine.

his
John ⋈ Riley.
mark.

Subscribed and sworn before me this 30th day of August, 1843.

Henry B. Metcalf, Commissioner of Deeds.

As the following affidavit bears testimony to the continued salubrity of St. Martin's at as late a date as the 11th of August, it also deserves a place here:

Robert Porterfield being duly sworn doth depose and say that he is the Captain of the brig Carib, which vessel sailed from New York to Demarara on the 29th of June last, with a cargo of provisions, and arrived there July 20th, discharged cargo, took in ballast and sailed for St. Martin's, August 1st; arrived there August 5th, took in cargo of salt, and sailed for New York August 11th, with the same crew as sailed from New York; have had no sickness on board the brig the voyage round, and all the before named ports were perfectly healthy. And deponent was informed and believes that no case of Yellow or Malignant fever had occurred at St. Martin's during the present season.

Robert Porterfield.

Sworn before me this 30th day of August, A. D., 1843.

Andrew J. Roe, Commissioner of Deeds.

We would here remind the reader that the Vanda, however healthy it may have been at St. Martin's, also underwent exposure at Point Petre, where yellow fever often prevails extensively even earlier in the year than when the Vanda was there. She, however, sailed from this port for St. Martin's *in ballast.* Before, however, proceeding from the New York quarantine to Rondout, the Vanda's forecastle was whitewashed, the vessel ventilated and purified as far as practicable, and the clothing and bedding washed; and what is also important to be borne in mind, is, that she had nothing in her hold but salt, which cannot be supposed to harbor infection. Her pine-apples were contained throughout the voyage in a long boat above deck; Welles, the passenger, having amused himself day after day in picking out and throwing overboard the rotten ones.

According to the official record, she had a sixteen days' passage from Point Petre, Guadaloupe, via St. Martin's. The whole number of persons on board on arriving at the New York quarantine, was seven; officers and seamen, six, and one passenger. The port of Point Petre sickly.

Now as the persons on board the Vanda were a thousand times more exposed than others, supposing her to have been a highly infected vessel, it follows that the type of their diseases should have been correspondently grave. A detail of these cases, as they occurred at Rondout, therefore, becomes necessary.

Case I.—*Pearce*, the Captain of the Vanda, from Bangor, Maine.—He took sick on the 14th of August, being the day on which the schooner arrived at Rondout. He was treated in part by Dr. Wales, but chiefly by Dr. Stringham, both being physicians of Rondout. The earliest symptoms were lassitude, prostration of strength, loss of appetite, pain in the head and back, and yellowness of the eyes. The true nature of this case was at once recognized by Dr. Stringham, upon whose general intelligence and powers of medical observation we would freely rely. Of an inquiring and philosophic turn of mind, Dr. S. has for years been accustomed to study the peculiar character of the diseases of each season, as a guide to the general treatment of every disease; and thus he had observed that all diseases for the several past months, especially all cases of influenza, were gradually assuming the *bilious remittent type.* Now, although this epidemic had nearly ceased altogether, yet, as Captain Pearce had just returned from a foreign country which had not yet been reached by this wide-spreading disease, he, according to a well known law, may have possessed a susceptibility to the cause which had either now become diminished in virulence, or had expended its force on all those susceptible to the impression. Dr. S. consequently pronounced the case one of *influenza,* having the bilious remittent form.

On the second day, Dr. S. found the captain with considerable febrile excitement, tongue coated with a brownish fur, pain in the head, back, and limbs, with a slight degree of delirium. The treatment consisted chiefly in general blood-letting and mercurial purgatives, followed by salts and senna or castor oil. On the fourth day, he had a free epistaxis, which seemed to relieve the pain in his head and the fever generally; and this bleeding from the nose continued on the fifth and sixth days. He complained much of that peculiar prostration which marked the recent epidemic influenza, and also with the other characteristic of yellowness of the tunica conjunctiva. On the 25th, having recovered sufficiently, he set out for his home at Bangor. Now this case was devoid of all features even analogous to those of yellow fever.

Case II.—*George Welles*, the passenger on the Vanda.—It has been already seen, in his affidavit, that this individual had a similar disorder, but in a slighter degree. He says that he staid on the schooner until the fourth day, when he went to McEntee's hotel, where Dr. Stringham first saw him. On the third day after this, as we are informed by Dr. S., the fever had subsided altogether, and the patient presented the same symptoms as in the case of the captain—those bilious symptoms which had been still more strongly marked in many cases of influenza that had occurred prior to the arrival of the Vanda. In this case as in the former, when the febrile symptoms had subsided, there was a preternatural slowness of the pulse, perhaps 50 in a minute. On the 29th of August, he left, *well*, for his home in Pennsylvania.

Case III.—*Riley*, the mate of the Vanda, whose affidavit also appears on a preceding page.—This man who was similarly affected, was treated by Dr. Wales, by bleeding, purging, and diaphoretics. His recovery was rapid. Like a true sailor, he attributed his disease to having come within fresh water.

Case IV.—*John Baily*, the North River pilot.—In regard to this man, it appears, according to the affidavit of Dr. Stringham, that he was seriously sick before going on board the Vanda to pilot her down the river; and this we also learned from Justice McEntee, the proprietor of the Mansion House at Rondout. He says that, while the Vanda lay there, Bailey went to New York in a steamboat; and that coming back in the night in his shirt-sleeves, he got wet, and that he took sick immediately after, and fainted when he attempted to rise from his bed to go on board the Vanda. He was sick two days at Rondout, five days on the Vanda while she was returning to Quarantine, and four days in the Quarantine hospital, when he died.

The following account of his case, we received at the Quarantine hospital:

> "The symptoms were—a quickened pulse, tongue furred, brown in centre and dry, skin dry, thirst, and great prostration; no tenderness over the region of the stomach and liver. Once his stomach rejected a dose of castor oil; but with this exception, *he did not vomit. At no time previous or after death, was his skin tinged with yellow.*

"Bailey was forty years of age, lymphatic temperament, and addicted to the habitual use of ardent spirits, having often regular *sprees*—altogether a most unfit subject for any form of fever."

Now these are the cases that occurred on board the Vanda, the supposed hot-bed of infection! And these are some of the cases upon which was built up the excitement of the yellow fever panic! As there was nothing in the hold but salt, as the pine-apples were upon the deck during all the voyage, and as the cabin below deck was occupied by the persons on board, it follows that their exposure to any infectious causes that might have existed on board the Vanda, was perhaps not less on the voyage than when she was being unloaded at Rondout. At all events, these persons underwent the fullest possible exposure, and yet they had scarce a symptom peculiar to the yellow fever.

Of Dr. H. S. Stringham's character as a physician, who has practised at Rondout for the last ten years, we have already spoken. The other physician living in the town is Dr. John Wales who quite recently arrived there from Ireland; but there is a third, Dr. Richard Elting, who though living on the opposite side of the Rondout, has been a practitioner of high repute in the village for the last twenty years. It is upon the testimony of these medical men that we rely for the facts that did not come under our own observation.

Of the four cases detailed above, the first three are evidently cases of bilious influenza, while the last which proved fatal, seems to have been produced by intemperance and exposure. As the first three cases, as respects the symptoms of yellowness of skin and the eye, the vomiting of bilious matter, and vital prostration, were even less marked than others observed by Drs. Stringham and Elting, for a month or two prior to the arrival of the Vanda, more especially as the symptom of the depression of the powers of life had characterized in a peculiar degree all cases of the epidemic influenza which had just ceased—a character belonging, too, to all previous epidemics of the same kind;—under these circumstances, we repeat, that Dr. S. concluded legitimately that they were cases of influenza occurring in persons not previously exposed to the cause. The opinion that the Pilot's case, which alone proved fatal, was not of the same character as those which proved fatal at Rondout, is favored by the fact, as will be seen hereafter, that his period of sickness is fully twice as long as the average of those at Rondout.

Among a number of cases of this kind related to us by Dr. S., it will suffice to refer to that of Captain Hathaway of the sloop Delaware; and him we select, because he is a man of intelligence and well known in the community.

As early as June, he was attacked with the bilious remitting form of influenza, characterized by extreme yellowness of the skin and eye, free vomiting of a dark bilious matter, resembling what was subsequently designated as "*black vomit*," and also by great vital depression.

As the season advanced, the bilious remitting type of disease gradually evinced itself more strongly at Rondout and the vicinity; but no case complicated with malignant symptoms appeared, until the latter part of August. Those occurring on the Vanda were of the ordinary form, which had been repeatedly witnessed during the season. Robert Grove, for example, attended by Dr. Stringham, left Rondout two days before the arrival of the Vanda, and when he returned, the schooner had departed; and yet he had all the peculiar symptoms with the rest who were attacked.

The practice of Dr. Elting also abounds in similar cases. He visited a boy at Rosendale, nine miles from Rondout, whom he found with all the symptoms of the disease, including yellowness of the skin and tunica conjunctiva, injection of the vessels of the eye, epigastric tenderness, preternatural slowness of the pulse, and great vital prostration. He was attacked on the 19th of August, the day on which the Vanda left Rondout, but he had had no connection with the village while the schooner was there, nor for months previously. He saw none of the pineapples; and it may be added that no one of the family had had any intercourse with Rondout for a considerable length of time. It was on the fourth day of his disease that Dr. E. saw him in this prostrated condition, and yet he recovered under the use of very powerful stimulants.

Another interesting case was that of Abraham Slate, the son-in-law of Dr. Elting, who was attacked two or three days prior to the coming of the Vanda. He was taken with violent pain in the head and back, nausea, and vomiting of bilious matter. His eyes were yellow, with the vessels injected; his skin had a yellowish cast, like the color of a lemon; there was epigastric tenderness; when the fever began to subside, there was great prostration; and now the tongue, which from the first had been covered with a yellowish fur, had a red tip and scarlet edges. Afterwards, as the fever subsided, the centre of the tongue presented a dark streak. This was a true bilious remittent fever. Calomel was administered largely in the early stage; and when the sinking stage supervened, quinine and wine were used. The patient recovered. Mr. Slate resides on the river opposite to Rondout.

Another strongly marked case in the practice of Dr. E., was that of A. Tichner, who was attacked two weeks before the arrival of the Vanda. The symptoms were the same as in Slate's case, only there was a greater prostration of strength. A fortnight prior to his attack, he had had influenza, by which he was much prostrated; and resuming his mechanical avocation before his strength was sufficiently restored, the *peculiar* symptoms supervened. There was great yellowness of skin and eye, the eye being also much injected, while the slowness of the pulse was very marked, being as low as forty.

Two months before this, Dr. E. had been called in consultation with Dr. Thomas M. Holt, who resides five miles from Rondout. In these cases, he says that the symptoms were most decidedly of the same character as those of Slate and Tichner, including the preternatural slowness of pulse. Besides, James Martin and Mrs. Teerpening, two of these patients, residing six miles from Rondout, had the vomiting of a bluish colored, and sometimes dark, fluid, which he alleges differed in no respect from that which was observed subsequently at Rondout, and was heralded to an excited public as the *veritable coffee-ground black vomit of imported West India tropical yellow fever!!*

Were it deemed necessary, we could present a score of well-authenticated cases, occurring before the arrival of the Vanda at Rondout, every one of which was more strongly marked than those which appeared on board the schooner, regarded as teeming with the seeds of pestilence and death.

Although it is unusual to present, in an investigation of this kind, testimony under the solemnity of an oath ; yet, as we have access to the affidavits* of Drs. Elting, Stringham, and Holt, declaring the truth of the facts above detailed, their introduction here will serve to impress more strongly upon the reader the truth of what we have already averred upon their authority.

Affidavit of Henry S. Stringham, M. D.

County of Ulster, ss.

Henry S. Stringham, of Rondout, physician, being duly sworn, saith, That this deponent has been engaged in the practice of medicine at Rondout about ten years. And this deponent further saith, that since the 8th of June last, and earlier, and previous to the arrival of the Vanda at Rondout, he attended professionally in many cases of fever partaking of all the general characteristics of the present disease; and this deponent further saith, that he is now attending Robert Grove, an Irishman, in whose case all the prominent symptoms of the prevailing epidemic are fully developed, being similar to those which occurred before the Vanda arrived. Said Grove informed this deponent that he had been absent from Rondout since the 10th inst., (previous to the arrival of the Vanda,) and returned on Monday, 20th inst., (after her departure,) having had no communication with that vessel ; and this deponent unqualifiedly asserts that he had attended cases previous to the arrival of the Vanda, between which and the present form of the epidemic, he thinks it impossible to discriminate. And this deponent further saith, that Mr. Bailey, the North River Pilot, sickened previous to his going on board of the Vanda to pilot her down the river, and that he was attended by this deponent, who, as the pilot was in a very debilitated state, advised him not to leave home.

And this deponent further saith, that he has seen nothing in the cases of the prevailing epidemic corresponding to his ideas of yellow fever, as gathered from his medical readings. HENRY S. STRINGHAM.

Sworn this 31st day of August, 1843, before me.

J. S. M'ENTEE, Justice of the Peace.

Affidavit of Richard Elting, M. D.

State of New York, county of Ulster, ss.

Richard Elting, physician, being solemnly sworn, doth depose and say, that having practised medicine in the village of Rondout and its vicinity for the last twenty years, he is well acquainted with the character of the diseases in that neighborhood. This deponent further saith, that some time previous to the arrival of the schooner Vanda at Rondout, a bilious remittent fever of a severe type appeared at that place, having also in some cases the prominent symptoms of the epidemic influenza then prevailing there. That the schooner Vanda arrived at Rondout on Monday, August 14th inst. ; and that subsequent to the arrival of the Vanda, this deponent was called in consultation to see Captain Pierce, the master of that vessel, whose case presented the same symptoms which appeared in several cases previous to her arrival. And this deponent further saith, that he has been called professionally to visit a number of persons who have sickened since the arrival of the Vanda, all presenting the same symptoms that existed previous to her coming. In one instance this deponent visited a patient of the same description nine miles from Rondout, who had not had, as far as this deponent could ascertain, any communication with Rondout ; and that in another the patient had been on board of the Vanda, and his case presented the same symptoms found in those who sickened previous to her coming.

RICHARD ELTING.

Sworn this 31st day of August, 1843, before me.

J. S. M'ENTEE, Justice of the Peace.

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* These affidavits have reference to the question of a violation of the Quarantine regulations, on the part of the Health officer, in allowing the Vanda to proceed to Rondout.

Affidavit of Thomas M. Holt, M. D.

Ulster County, ss.

Thomas M. Holt, physician of Esopus, Ulster county, being duly sworn saith, That he has practiced medicine in the said town for the last twenty-six years. And this deponent further saith, that several weeks prior to the the first day of August inst., he attended a patient residing in this town, about five miles from Rondout, having the following symptoms: Violent pain in the head and lumbar region, eyes extremely yellow and inflamed, the skin yellow, the tongue dry and parched, thickly coated with yellow fur, with the edges of a scarlet color, pain in the pit of the stomach, vomiting of dark bilious matter, sometimes of a bluish cast, dark bilious evacuations, succeeded by great prostration of strength. The patient, a female, had not been at any place from home for sometime previous to her attack. She recovered. A similar disease occurred in the case of a Mr. Martin, about six miles south of Rondout, who was attended by this deponent about the same time, and who also recovered.

This deponent further saith, that he considered said disease to be severe bilious remittent fever, similar to a disease which prevailed very extensively in this vicinity some fourteen or fifteen years since; over thirty cases occurring within a mile of his residence. From the general description of the diseases prevailing at Rondout, this deponent has no doubt that it is the same character of fever which he has just mentioned as occurring some fourteen years since, which disease appeared in the months of August and September. Thomas M. Holt.

Sworn this 31st day of August, 1843, before me.

Peter M. Decker, Justice of the Peace.

This evidence, in connection with that afforded by the private communications made to the Board of Health of this city, proving the existence of a disease of the same character in other localities, which will be presented in the sequel, all tends to show that the fever at Rondout is an epidemic; and this epidemic, on referring to the medical history of the past, would seem to have a close relation with the recent wide-spread influenza, peradventure constituting a morbid *diathesis* which modifies the character of all other diseases.

The fact that the influenza assumed a bilious type elsewhere, is proved by the following communication from Dr. Richard H. Coolidge of the medical corps of the United States army, addressed to Dr. Alexander F. Vaché. His cases have reference to the troops stationed at Fort Fairfield, on the Maine frontier—the late "disputed territory;" while at Newport, Rhode Island, the disease among the troops had features of the same kind so decidedly marked, that the surgeon of the post reported them to the Medical Bureau at Washington, under the name of "*Bilious Catarrh.*"

The patients [at Fort Fairfield] complained at first of slight soreness of the throat, cough, and dyspnœa; loss of appetite, headache, pain in the loins, together with an unusual depression of spirits, and an unwillingness to make the least exertion. The pulse varied little from the natural standard, and if any thing, it was less frequent and more feeble. Pain, increased on pressure over the epigastric and right hypochondriac regions, was a frequent symptom. If the disease was allowed to take its own course, emesis was sure to occur; the fluid ejected being in mild cases pure bile, but of a *green hue*, in the more severe.

In a majority of the cases, an emetic, followed at night by a dose of calomel, and Dover's powder, was sufficient to remove all the symptoms, except the cough, and dyspnœa, which readily yielded to the application of cups or sinapisms to the chest, and to the use of some stimulating expectorant.

One of the severest cases occurred in a sergeant of temperate habits, but with a constitution enfeebled by a severe attack of intermittent fever, while serving in Florida two years since. During the day he complained of the symptoms enumerated above, the lassitude and debility being more marked than in any other case. At midnight he had a chill, which continued two hours, followed by a slight fever. In the morning when I first saw him he was free from fever, pulse slow and feeble, tongue covered with a dry white fur; he complained of great debility, being hardly able to raise himself in bed. There was intense headache, nausea, and pain on pressure over the stomach and liver. While standing at his bed-side, vomiting came on, the fluid ejected being pure bile; no food had been taken for 24 hours. Ten grains of calomel were administered and cups applied to the epigastric region; this arrested the vomiting for the time, but towards night it returned, the fluid now ejected having a *dark green hue.* Cups were again applied, and calomel and opium administered. The bowels not having been moved, an enema was directed, after the operation of which there was no recurrence of the vomiting. The febrile paroxysm returned daily for a week, at which time they were arrested by quinine.

Two more severe cases occurred; they were so much alike that a description of one will be all that is requisite.

A private, who during the day had complained of the usual premonitory symptoms, was attacked in the night with vomiting. The emesis was so violent and long continued that I was sent for. I found him vomiting a *dark green fluid*, but was told that the contents of the vessel just removed were yellow.

The disease presented similar features at this port, so much that Surgeon R. S. Satterlee has designated it "Bilious Catarrh," in his official report. No local cause, capable of modifying the disease exists in the vicinity of either post.

The same fact has been observed at Binghamton, in the western part of this state, as appears from an article in this Number of the Journal, from N. S. Davis, M. D.

"Out of one hundred and fifty or two hundred cases of this disease," he says, "I have not seen one that was not accompanied by more or less *biliary* derangement, as manifested both by the symptoms and the character of the evacuations."

Under ordinary circumstances, the evidence here presented would be decisive as regards the *indigenous* nature of the malignant fever of Rondout; but in the present instance, it becomes requisite to pursue the inquiry into all its ramifications. This investigation, however, will still more clearly establish the conclusions already warranted, as respects any supposed agency exercised by the Vanda in the production of this disease.

The Vanda lay at Rondout five days, having arrived there on the 14th and left on the 19th of August; and it was only the cases that occurred after her departure that assumed the *malignant* form. As most of the cases were in persons who resided, or had worked on the "strand," which has been already described as the low ground of three or four hundred yards in extent, bordering on the river, and which constitutes the business-part of the village, and as the Vanda had occupied a place close by the wharf, about midway along the strand, it may be well, before entering upon the details of these cases, to present certain statistical facts derived mostly from the records of the Delaware and Hudson Canal Company.

The Vanda is a large-sized schooner of 210 tons burden, laden, on her arrival at Rondout, with 3500 bushels of salt thrown loosely into her hold, and with perhaps 3000 pine-apples, more or less in a state of decay, the latter being contained, as before stated, in a small boat upon deck; and these apples, with the exception of some sold from the vessel, were transferred to Barlow's store on the day of arrival. As it has been alleged that the unloading of the Vanda—the throwing open of her hatches—contributed particularly to the dispersion of a morbid poison, these circumstances have been inquired into with much minuteness.

As regards the pine-apples, it is admitted on all hands that, independent of the effect that would be produced by eating the same quantity of any other decaying fruit, as for instance colics and diarrhœas, nothing unfavorable ensued ; for those who eat most, in many cases, suffered no inconvenience whatever, while some of the severest, aye fatal, cases are found among those who had not even tasted them, or had partaken but in a very moderate quantity. Moreover, as the apples had been at no time below deck, their innocence, as regards the throwing open of the hatches, is quite obvious enough.

The terrible consequences of the *throwing open of the hatches* must have reference, therefore, to the unloading of the salt alone. Now, independent of the universally admitted disinfecting power of chloride of sodium, and without reference to the circumstances already stated, that the schooner underwent at quarantine whitewashing, ventilation, and other means of purification, let us inquire statistically into the facts connected with the *throwing open of her hatches.*

In getting out the salt, as many as fifteen men, besides two persons connected with the Custom-House at New York, were engaged part of the time, but sometimes there were not more than ten at work, including two of the crew. Subsequently in loading the schooner, three men were engaged in trimming her, that is, in stowing away the coal under deck. Now of these *twenty* persons, but *one* took sick ; and this one did not enter the hold, but simply wheeled the salt, after it was hoisted from beneath the *terrible hatches*, into the warehouse !

On this point we may add another fact, viz., that on the 19th of September, we, accompanied by Col. J. T. Hendricks of Rondout, entered the warehouse containing this same salt, the door not having been unlocked since the departure of the Vanda on the 19th of the previous month. We spent some time in selecting large specimens of its crystals, many being more than an inch in diameter. It proved no more infectious than did the opening of the hatches.

As figures have the reputation of generally telling the truth, we shall avail ourselves still farther of the records of the Delaware and Hudson Canal Company. When the Vanda came first to the dock, she lay in the centre of 42 vessels and other craft, that had arrived before her, and which were now waiting, each her turn, to take in a cargo of coal : the crew of each of these averaged four men. The Vanda was also surrounded by 52 canal-boats, which had just arrived from the coal-mines, each boat averaging three men. Here she lay five days, during which period 44 vessels and 266 canal-boats arrived, these taking the berths successively of those that were leaving. The total of the crews of the above named vessels is not less than 1300 men, three-fourths of whom certainly came within a few feet of the Vanda. This must have occurred in one of three ways. In consequence of the peculiarity of the channel and the position of the Vanda, both the boats bringing coal and the schooners carrying it off, would necessarily come near her. If the schooners loaded from the wharf, each one would press upon the Vanda, in order to secure the required position for passing up the channel;

for if not there, the vessel lost the privilege of priority in loading. Again, if the coal was taken directly from the boats which brought it from the mines, there was still a necessity to pass the Vanda once if not twice. And, thirdly, as the majority of the boatmen come down the strand in the way of business, each one may, in doing so, as the Vanda lay against the wharf, have passed within a yard of her. All these points we made the subject of strict inquiry among merchants and others on the wharf.

This statement refers exclusively to the business of the Delaware and Hudson Canal Company; but there are other establishments at Rondout which receive and forward freight daily, by which the communication of strangers was still further augmented. But among the 1300 men thus actually exposed to the Vanda, if at all infectious, there ought to have been some evidence of the peculiar disease which at this time prevailed at Rondout.

The ports to which the schooners belonged, which took in coal during the five days that the Vanda lay at the wharf, are the following: Hudson, Brookhaven, Albany, Falmouth, Newburgh, Orient, Taunton, Norwich, Port Chester, Sandwich, Rahway, Haddam, Aquackanack, New York City, Tarrytown, Boston, Rhinebeck, Stonybrook, Stamford, Poughkeepsie, Hartford, New Hamburg, Stockport, Packetuck, New Haven, Blue Hill, Salem, Lyme, Waterford, Chatham, and Troy. Some of the schooners lay in turn actually in contact with the Vanda; and as these places occupy points extending from Maine to New Jersey, it is rather unaccountable, admitting the Vanda, for the sake of the argument, to have been a point of infection, that no evidences of the disease have appeared at any one of these various and remote points, traceable through these schooners to the Vanda; and this reasoning appears in stronger contrast, if we suppose the Vanda to have infected the persons who took the disease on shore, some of whom resided or did business several hundred yards from the schooner, as well as others who had never seen her!

These investigations were made on the 6th September; and between this period and the 19th of the preceding month, the day on which the Vanda sailed, there arrived fifty vessels and 229 canal-boats, (the number of canal-boats being diminished by an interruption of the navigation for nine working days, caused by a breach in the canal.) These crews give a total of 887 men from foreign places, exposed to the atmosphere of Rondout during the seventeen days following the departure of the Vanda; and yet there is no case known of the disease having been communicated. At the same time, it is obvious that a person visiting this locality must have run a risk not unlike that of being exposed to one in which fever and ague abounds. The cases of Jessup, of Piermont, and of Mather, attached to the steamer Victory, would seem to have thus arisen.

Moreover, from the arrival of the Vanda, up to this same period, the 6th of September, not a case of any disease occurred among the 150 laborers, employed daily in the coalyard of the Company, in loading vessels and unloading canal-boats.

It would thus seem sufficiently established that no proclamation of non-intercourse as regards the Vanda, was required on the part of the city of New York; and that it was hence merely re-enacting the solemn farce of the Roman snake-story.

It is due, however, to the Board of Health, to say that they were compelled to act as they did. The Mr. Romeyn of Kingston, spoken of in the proceedings of the Board of Health, as having announced the existence of yellow fever at Rondout, committed the unfortunate mistake of sending his letter to the editor of a daily paper in this city, instead of the Board of Health; and the editor perpetrated the same blunder, by publishing it to the world. As the information was thus prematurely given to the public, in anticipation of any action on the part of the public authorities, the Board of Health was forced into the measure of a proclamation of non-intercourse, in order to allay the excitement produced by this quixotic proceeding. Upon this point, the words of the Mayor of New York, De Witt Clinton, in 1805, ought to be carefully treasured up:

> The universal alarm excited by the existence of this disease, the serious injury to the commercial and agricultural interests of the community, and the extreme inconvenience to our fellow citizens in particular, renders it necessary that the evil should absolutely prevail before it is acknowledged. On the other hand, it is due to the health as well as the security of the lives of our citizens, to apprise them seasonably of the calamity, which menaces them.

To conclude the history of the Vanda, it may be added that she proceeded to her home at Bangor, Maine. The story of her leaving a sick man at Newport, Rhode Island, turned out to be all a fabrication; and we are told in a Bangor newspaper, that the Bangorites, dwelling in a hyperborean region never visited by *yellow Jack*, received the persecuted schooner, unlike the Gothamites, in a spirit of paternal kindness, allowing her to cast her anchor in their midst.

But the alarmists were not content to introduce yellow fever by means of the Vanda, but must needs increase the panic by giving it a *contagious* character, that is, a capability of being transmitted from one person to another by mediate or immediate contact. Knowing that the system of quarantine is deeply rooted in the fears and ignorance of the populace, this could not but have its expected effect; but fortunately so few of the profession believe in the contagion of yellow fever, that they may safely be allowed to enjoy their own opinions, incompetent to do much harm, except on occasions like that of the Rondout fever.

We here feel it due to the occasion to bestow a passing tribute of respect upon the memory of the great CHERVIN of Paris, who has paid the debt of nature quite recently. By him was conceived a plan, the most wise and the most vast, that ever was formed by a medical man for the interests of humanity, and by him was it thoroughly executed. The commission appointed by the Academy of Sciences in Paris, in 1827, to adjudge the prize designed for labors in medical science, states that he collected the evidence of hundreds of medical men in all parts of the world where yellow fever is known to prevail; and thus impelled by his ardent philanthropy and at the sacrifice of his patrimony, he accomplished voluntarily, let it be said to the honor of humanity, what a powerful government could scarcely hope to obtain at great expense. "He visited," according to the report of this commission, "in eight years, all the colonies belonging to France, England, Spain, Holland, Denmark, Sweden: he visited all parts of North America, where the yellow fever has shown itself, from New Orleans to Portland, in the state of Maine; so that from Cayenne to this last place, he traversed over and made investigations in thirty-seven degrees of latitude."

After the ample evidence afforded by this medical missionary and able investigator, who, as he proceeded from place to place, most clearly established the error of attributing to contagion what should be ascribed to the infection of local causes, it seems strange that any advocate of the opposite opinion should still be found. We have not space even to state the conclusions, much less any part of the details, of Chervin's gigantic investigations. Suffice it to refer to several facts. It is a custom throughout the United States for the inhabitants of towns, whenever the yellow fever appears in them, to fly to the country, but in no instance has the disease ever been propagated out of towns, This is yearly exemplified at New Orleans; and here, notwithstanding the fatal *black vomit* appears on the decks of steamers, the disease is never manifested among fellow-passengers who have not been exposed to the infected district. A signal refutation of the supposed contagious nature of this disease, is likewise afforded by the city hospitals, established in the vicinity of New York and Philadelphia, inasmuch as those employed about the sick had, in no instance, the disease communicated to them. Again, when this occasional visitant appears in this city, in Philadelphia, and elsewhere, the fact that it can be confined to certain parts, as the wharves and streets nearest the river, by appropriate barricades, affords evidence the most satisfactory of its local origin. Indeed, the disease has often been found limited to one side of a street, to one story of a house, or to men whose berths were on a particular side, or in a particular part of a ship. Lastly, it has been satisfactorily demonstrated that the disease is not propagated by the nearest communication with the bodies of the diseased, by inoculation with the blood of persons in the worst form of the disease, by drinking the black vomit, etc.

In the "History of the Malignant Fever" of 1805, in New York, many facts are contained in illustration of some of these points, as for instance the following:

> The Board have formed a decided opinion, that the principal seat of the prevailing disease is that part of the city included between Burling-slip and Old-slip as far west as Pearl-street. Almost all the cases of disease, which have occurred, can be distinctly traced to a communication with that part of the city. It is matter of extreme regret, that the repeated admonitions of the board, to remove from this quarter, have been disregarded by a number of individuals who have remained the self-devoted victims of disease and death. They conceive it their duty again to enjoin it upon their fellow-citizens, who have continued there, to remove immediately. To obviate every plea of necessity, and to discharge the duties they owe to humanity, the board have erected buildings for the reception and accommodation of the indigent, at Bellevue gate, where they will be supplied with provisions by the Commissioners of the Alms-House. Such as are able to remove without assistance, are enjoined to go into the country, and not into the healthy parts of the city. The board will consider it their duty to interpose and prevent such removals, which have excited the apprehension of a number of worthy citizens, who regard their health, as thereby exposed to imminent danger.* Persons have been engaged in these practices, who ought to know better, and who, unless their conduct be changed, will become the objects of severe reprehension and public indignation. All persons who do not

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* This alludes to two gentlemen who resided in healthy parts of the city, each of whom had taken a sick person into his house, from places deemed infected. One of these died; but it is a fact, that no individual in either family sickened in consequence thereof. All the neighbours likewise, continued to enjoy good health.

comply forthwith, with this advice of the board, to remove from the above described part of the city, *which is deemed the principal seat of the disease, and which does not contain more than* 33 *acres,* will he considered guilty of a wanton exposure of their lives, and will justify the board in resorting to compulsory measures.

By order of the Board of Health,
DE WITT CLINTON, President.

James Hardie, Sec'y.

In the farewell address of the Board to the public, this point is again particularly referred to, in the following words:

To the voluntary removal of the healthy from the infected parts of the city, the Board in a great degree, ascribed the comparative fewness of deaths, which have occurred. In the expediency of this step all parties concurred.

Again, it is remarked:

It is remarkable, that during the different seasons, in which the city of New York has been afflicted with pestilential fever, the Alms House, Debtors' Apartment, Bridewell and State Prison have almost heen totally exempt from that calamity; and that when any solitary case of such fever has occurred in either of these buildings, in does not appear even in a single instance, that the disease has been communicated from one to another.

Upon this point, our evidence is, in truth, cumulative. Thus it is remarked by Professor Eberle:

Indeed, if yellow fever did possess the power of generating its own virus and communicating itself by contagion, the fact, as Doctor Bancroft observes, must have been proved ten thousand times by the most irrefragible testimony, and yet, there is perhaps no *incontestible* case on record where the disease was thus communicated. * * * But although yellow fever be not contagious, it may, no doubt, be introduced into sea-ports in ships. Unquestionably, a pestiferous miasm may, under *favorable* circumstances, [*but not when, like the Vanda, having salt alone in the hold,*] be generated in the holds of ships while navigating in hot climates, which, when suffered to escape at the wharves, may give rise to the disease in question. When the miasmata are thus introduced, however, the disease engendered by it will not prevail epidemically, but only among those who approach the infected vessel, or the cargoes, and will disappear entirely when these are removed to a distance. (Bancroft.) The sporadic cases which occurred at the Wall, about 1804, at Perth Amboy, in 1811, at Middletown, Connecticut, in 1819, and at New York, in 1824, were distinctly traced to vessels that had recently arrived from warm climates. The circumstances of the ship Ten Brothers, at Boston, in 1819, afford a striking example of the production of deleterious miasm in the holds of ships, capable of producing yellow fever.* This vessel having arrived at Boston on the first of August, a number of persons went on board while the cargo was being discharged; and out of these, twelve individuals, living in various parts of the city, were seized with malignant fever, nearly all of whom died. The disease was not, however, communicated to a single person of those who visited the sick.

By Dr. W. Fergusson, Inspector General of Hospitals in the British army, a gentleman of great experience, tact, and candor, much valuable information upon yellow fever has also, within recent years, been furnished. He speaks of this disease as it prevailed among the crew exclusively of the Regalia transport, when, in 1816, it was employed in carrying black recruits from the coast of Guinea to the West Indies; the blacks having, in a great measure, a natural exemption from the disease.

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* Medical Recorder.

> "The ship," he says, "on her arrival at Barbadoes, was not put under restraint or quarantine, but communicated freely with the sea-ports of Barbadoes, the Saints, Antigua, and Guadaloupe; landing the severally ill or dying subjects of that disease amongst the inhabitants, and at the hospitals at Barbadoes and Antigua, without communicating infection at any of these places; and finally, after having undergone a thorough purification, sailing from Guadaloupe for Europe, crowded to a very great degree with rebel French prisoners and their families from the jails, under the most dangerous circumstances of health, with a case of yellow fever actually dying on board the day before she left Basseterre roads, but without communicating any such fevers to the unfortunate passengers, leaving any behind her at Guadaloupe, or importing any at the ports she ultimately reached."

Speaking of an epidemic yellow fever which occurred the following year, Dr. Fergusson remarks—

> what a different interpretation the facts I have collected would have borne, had the present epidemic which afflicts the islands broken out in the ordinary course of the seasons, a year earlier, at the time the Regalia was here.

Here, then, notwithstanding a mere coincidence, it would have been alleged as undeniable that the disease had been imported from Africa; and, in like manner, at Rondout, the coincidence of the existence of a violent form of malignant fever and of the presence of the schooner Vanda, is made to assume the relation of cause and effect.

In the United States, up to the year 1793, almost the whole profession were believers in the communicable nature of yellow fever; but each successive epidemic seems to have swept off the contagionists, while nearly all the younger members have come into the profession disbelievers. The following extract bearing upon this point, we take from the "Cyclopædia of Practical Medicine:"

> The public manner in which the celebrated Dr. Rush, once a believer in contagion, retracted his opinion, after farther observation, is matter of historical notoriety. At New York the doctrine of contagion is still ardently supported by two physicians in particular—Professor Hossack and Dr. Townsend—who have both written much upon the disease. The facts which presented themselves to Dr. Beck in the course of the last epidemic at New York (1822), caused his public retraction of faith as to contagion in the following year;* and Dr. Townsend appears to have admitted† that, of about two hundred persons of all grades of the profession in that city, *three or four only* believed lately in the transmissible nature of yellow fever. "In 1793 the profession were almost unanimous in the belief of its contagious character, and no little courage was required to brave the storm an opposite opinion would have awakened. In this generation an equal unanimity prevails in the profession as to the non-contagious nature of the disease; and he who advances the opposite doctrine seriously, is deemed no more worthy of notice, much less a refutation, than would be an advocate at this time of the Ptolemaic system."‡

We have already stated that yellow fever, under certain inappreciable circumstances, may be introduced into a port in ships. Of this we will adduce several striking instances, all of which, with the exception of the first, will be new to the reader.

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* New York Medical and Phys. Journal, No. iii. p. 472.

† *Chervin.* De l'Opinion des Médecins Américains, p. 11.

‡ See American Journal of Medical Sciences, August, 1829, p. 523.

In a volume published by order of the Board of Health of this city,* we find the following statement made in a communication by Dr. Joseph Bailey, the then Health Officer. When we consider the source of this statement, and the additional circumstance that the vessel was a man-of-war, the facts detailed claim our fullest confidence.

The facts are numerous and indisputable, that the yellow fever has been communicated to individuals who have visited vessels, on board of which one or more persons have had that disease, or which vessels came from a place where it prevailed; and they have imbibed the infection, not only while the cargoes were on board, but after they were discharged, and the vessels thoroughly cleansed.

A noted instance of this fact occurred this year on board of the U. S. Brig Enterprize. After the sick had been removed to the hospital, the well were landed, that they might not be any longer exposed to the infected air of that vessel, and to afford an opportunity of purifying her, which was done by slacking lime in her limbers, and white-washing her throughout, not omitting her iron ballast, in which operation three casks of lime were used, and she was well ventilated by four windsails hoisted constantly in her hatchways.

The crew were so intemperate during the five days that they remained on shore, that we were under the necessity of sending them on board again. The brig had been purified in the interim, but it was soon evident that she was still an infected vessel; for in six days after the crew were sent on board, four men were taken sick with yellow fever, and in the course of five days, seven more had the same disease, making a fourth of all the men on board; and five of the eleven taken sick died. Those persons must have been infected after their return to the brig, and subsequently to her purification, otherwise the disease would have been excited in them, as it was in the case of some of their shipmates, from their irregular living and exposure to the weather, by lying on the ground at night.

Those men were more predisposed to receive infection, after their return to the brig, than they were previous to their landing, in consequence of having lived in a pure atmosphere, and being debilitated by repeated intemperance. This fatal evidence of the cause of the disease still lurking in the Enterprize, induced us to have the crew brought on shore again, and recommence her purification, which was done by using two more casks of lime, by letting into her hold daily several feet of water, and keeping up windsails. Six men were left to take charge of her, whose duty it was to pump out the water and turn the windsails, and they were directed not to sleep below in her hold.

Twenty-five days after her arrival, and after repeated white-washing, letting in water, and constant ventilation, one of the sailors obtained permission of a lieutenant, to take his wife on board: this woman was taken sick on the ninth of August, with yellow fever, after she had been seven days on board, and she died in the Marine Hospital on the eighteenth of that month.

In the case of this vessel, we have a positive proof, that this disease comes from abroad, and that its infection continues to act after an abundant use of lime, being ten times the quantity employed in white-washing a house of similar dimensions, besides the immense quantity of water let in and pumped out, and a constant supply of fresh air, conveyed into her hold by windsails. Here no animal or vegetable matters were to be seen, or otherwise detected, whose decomposition could keep up this poisonous air, especially after she was first cleansed.

In this same work, we find the following paragraph, to which we refer more particularly to show that it leads to unwarranted inferences:

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* A History of the Proceedings of the Board of Health of the City of New York, in the summer and fall of 1822; together with an account of the rise and progress of the Yellow Fever, which appeared during that season, and the several documents in relation to it, which were laid before the Board.

Doctor De Witt, the Health Officer, contracted the disease [yellow fever,] while in the performance of his duty in examining infected vessels at the quarantine establishment, and died on the 11th of September [1819], *being the fifth person out of seven, who lost their lives while in the performance of the duties of this hazardous office.*

Now the period during which these five died is twenty-four years; and since 1819, another period of twenty-four years has transpired, during which not one has died. Besides, of the five that died, but three fell victims to yellow fever, viz., Dr. Richard Bailey in 1801, Dr. Ledyard in 1803, and Dr. De Witt in 1819.

We will now present the circumstances connected with the Pilot boat La Fayette, the Ship Gustave Edouard Negret, and the Brig Growler; and for these facts, we are indebted chiefly to Dr. James Harcourt, who was born at the Quarantine, was reared there, and studied medicine there, and who subsequently, now 36 years old, has spent all his years, with the exception of Dr. Doane's administration, in connection with this establishment. This case surely does not confirm the ratio of mortality given above relative to "this hazardous office."

The *Pilot-boat La Fayette* sailed for Havana, in 1839. She remained there ten days in June, and returned in ballast. While in the port of Havana and on the passage home, there was no sickness on board the La Fayette; but while performing her quarantine of thirty days at the port of New York, and while in the process of being cleansed and ventilated, there sickened on board of her with yellow fever, the three following persons:

Isaac Oxer was received into the Marine Hospital, June 29th, 1839, from the Pilot-boat La Fayette with the yellow fever. Died July 3d, with black vomit

John Oxer, a brother of Isaac, was received from the same vessel, July 8th, laboring under the same disease. Discharged cured on the 13th.

Lockman, the pilot, from the same vessel, died, in New York city, about the same time, of yellow fever.

The ship *Gustave Edouard Negret* sailed from Havre with an assorted cargo, bound to Martinique. The cargo was unloaded in Martinique in June, and the vessel remained at St. Pierre eighteen days, having taken in stone ballast from the water. They heard of no fever in the port, and the crew were all well at the time of the vessel's departure; but the day after sailing, the cook was taken ill with fever, and died four days prior to the vessel's arrival at the quarantine of New York. She arrived here July 23d, 1843, when two men, who had sickened on the previous day, were sent to the hospital immediately. These were both well marked cases of yellow fever. When the ballast was being overhauled and the vessel cleansed, several others sickened; and of these, who were also sent to the hospital, one died with black vomit. These cases are thus presented on the records of the Marine Hospital:

Charles Terriin,	received	July 23d,—	Discharged	Aug.	1st.
Guillaume Jean,	"	"	"	"	20th.
Paul Perron,	"	31st,	Died	"	6th.
Balthasar Bulot,	"	Aug. 2d,	Discharged	"	7th.
Louis Put,	"	19th,	"	Sept.	1st.

Bulot having a relapse on the 17th, remained in Hospital until the first of September, the symptoms being scarcely less severe than in the first attack. Terriin, discharged on the first of August, relapsed on the 24th, the symptoms being more mild than in the first attack.

As regards the *Brig Growler,* the following statement was made by the Captain on her arrival at the Quarantine of New York:

> The Brig Growler, Captain John Spear, sailed from Boston May 14th, 1843, bound to New Orleans. Arrived there June 12th, discharged cargo, &c. Immediately on the vessel's arrival, four men were paid off and discharged. The remainder of the crew enjoyed good health while at New Orleans; and they heard of no sickness among the shipping, nor in the city. The vessel took in a cargo consisting of wheat, pork, lard, oil, &c.; and she sailed July 10th for New York. On the day of sailing, she shipped four men in the stead of those discharged. All continued well until July 27th, when three of the seamen sickened with the usual symptoms of fever; and on the 30th July, not one of the men were fit for duty. One of the men that sickened first, died July 30th, and another died on the 31st July. The vessel went inside the breakwater, August 4th, she being leaky, and the pump choked. Having had a survey, she sailed on the 6th, for New York, and arrived at Quarantine, August 9th.
>
> [Signed,] John Spear.

The following cases of yellow fever were received from this vessel into the Marine Hospital, Staten Island:

John Brown, -	received	August	9th,—	discharged	August	15th.
John Hart, -	“	“	13th,	“	“	25th.
Robert Havinu (mate),	“	“	13th,	“	Sept.	1st.
John Spear (captain),	“	“	16th,	died	August	21st.

Two other men, who had been sick with the same disease on the passage, were convalescent when admitted into hospital. Besides, there was a case of a lighterman engaged in discharging the cargo, who went into the hold of the Growler unnecessarily; and although he did not remain longer than perhaps twenty minutes, he took sick. He was admitted into the hospital on the 28th of August, and on the 31st he died, a well marked case of yellow fever.

It is thus seen that there may be contained in vessels coming from tropical latitudes, a malaria, which may produce in persons who visit the vessel, or approach it within a certain distance, true yellow fever. As in the instance of the ship Ten Brothers before mentioned, the disease was here restricted to those that came within the sphere of this vitiated atmosphere; and when the ship and cargo are removed to a distance, the disease will, at the same time, disappear.

Now let the reader pause for a moment, and ask himself in what respect there is any analogy between the effects produced by these infected vessels and the Vanda. In unloading and loading the Vanda, twenty persons were engaged; and of these, one, and one too who did not enter the hold, took sick, but with a disease *not* yellow fever.

We will now present a detail of the cases that occurred in Rondout; and most of these were confined to the *strand,* that is, to individuals residing there, or to others who resided on the higher back ground, but were employed on the strand in the capacity of clerks or laborers. Indeed, the whole town may be said to be more or less connected with the strand, either in the way of residence or business; and this part of the village was in a filthy condition. We deem it unnecessary to expand this part of our subject into very minute details, as the leading features of each case will indicate its true nature.

Case I.—*William C. Moore*, an American, æt. 26. He was taken on the 19th of August, the day on which the Vanda departed. His store is about 60 feet from where the Vanda lay, but we were informed that he was never on board the schooner. He had the premonitory symptoms of fever at the outset of the disease. There was no yellowness of the eye, but the skin was slightly tinged with that color, nor was there even bilious vomiting. On the fifth day, when the fever subsided, there was much prostration, and the pulse became preternaturally slow; but the patient recovered rapidly under the use of stimulants and tonics. This case was treated by Dr. Stringham, who had seen much more strongly marked cases before the arrival of the Vanda.

Case II.—*William V. Jessup*, æt. 22, an American, a clerk in the store of Mr. John S. Middagh, distant perhaps 200 feet from the point occupied by the Vanda. He was also taken sick on the 19th. This person, according to Drs. Elting and Stringham, had been in bad health for some weeks before the arrival of the Vanda. He had a foul tongue, and complained of the symptoms characteristic of the influenza then still prevailing, such as loss of appetite, pain in the bones, great prostration of strength, and especially a feeling of weariness in the limbs. We were informed by Col. J. T. Hendricks also that he complained of indisposition for three weeks before the arrival of the Vanda, being feverish at night and having a furred tongue; and on his advising him to apply to a physician, he replied that he was his own doctor and was taking various medicines.

This case seems to have commenced, if we date it from Saturday the 19th, when Dr. Elting first saw him, with symptoms of vital prostration. Indeed, Dr. E. supposed it to be typhus, and sent for Dr. Stringham in consultation. The patient had now a feeble pulse, heat of skin not great, vessels of the eye injected, tongue covered with a yellowish fur, with red edges and tip, and the teeth slightly covered with some dark sordes. On the following day, (20th,) according to Dr. E., he was considerably better, notwithstanding a more frequent pulse and greater heat of skin; but the pain in the head was, perhaps, less than on the previous day. The tongue along the centre had now more of a brownish aspect, while there were slight nausea and some vomiting of bilious matter. Gave calomel, to be followed by salts, which operated well on the third day, causing green evacuations. On this day, the symptoms appearing to be all meliorated, a solution of ipecacuanha, with the view to keep up action upon the skin, was prescribed. On the fourth day, as sudden prostration supervened, Dr. Stringham was again called in consultation. Stimulants, such as wine and brandy, were now prescribed, and with apparently good effect, for he slept some the ensuing night; and on the following morning, his symptoms were still more favorable. Even the slight delirium which had existed for several days previously, had disappeared; and Dr. E. embraced this opportunity of leaving his patient until 10 o'clock, P. M., in order to visit another at Rosendale. But in the night he again became delirious and very restless; and on the next day, 11 A. M., (Friday,) he died. The skin after death was of a lemon yellow color, and not of the mahogany cast peculiar to yellow fever. On Wednesday, prior to the adoption of the stimulating treatment, he vomited up a dark greenish fluid, with shreds floating in it; but this Dr. E. regarded as of the same nature that he had seen in cases even two months prior to the arrival of the Vanda, and not as the coffee-ground matter peculiar to yellow fever.

CASE III.—*Lavin*, an Irish laborer, æt. about 40, also took sick on the 19th. This was the only one of the twenty persons employed in unloading the Vanda that sickened; and he, as already stated, was not one of those that were engaged in the hold in filling the tubs with salt, nor did he work directly over the hatch in elevating these tubs; but he merely wheeled in barrows the salt from the deck into the store-house. Now, was this a case of yellow fever infection, when the other nineteen escaped? This case was treated by Dr. Wales, who regarded it as an ordinary bilious remittent fever. It was not till the third day of his sickness that a physician saw him. His symptoms were the same as those just described, but there was no yellowness of the skin, and but little of the tunica conjunctiva. On the night of the fourth day, nausea and vomiting ensued; and then it was that he threw up a dark bilious fluid, which also was announced to the world as a case of the true coffee-ground black vomit. This, however, is denied by Dr. Wales, as will be seen in the sequel. He died on the 26th, after seven days' sickness, having been, for some forty-eight hours, in the low and sinking state. He was of intemperate habits. The cabin in which he lived was one of the most wretched character.

CASE IV.—*Boy at Rosendale*, æt. 7.—This case has been already described on page 306. Although this boy resided seven miles from Rondout, and had no known connection with the village, all the peculiar symptoms were strongly marked.

CASE V.—*William Harris*, æt. 30, an Irishman, was taken sick on Sunday, the 20th, and died on the 24th. The symptoms of this case had some analogy to the others, but there was no yellowness of skin. We were informed by Dr. Wales that he died like a cholera patient—vomiting and purging, convulsions, cold surface, and leaden features. He had come down the canal several days before, being out of employ in consequence of having been crushed in a lock; and to this cause he himself ascribed his death. We were informed by Mr. Crane, the dock-master, that he had not the necessaries of life—that he lay on straw on the floor—and that bricks were placed under his head to keep it out of the wet and moisture.

CASE VI.—*Marvin J. Merchant*, æt. 21, an American, also a clerk of Middagh's. He, too, was taken on the 20th. His case had no very marked symptoms; and it is sufficient to say that he recovered.

CASE VII.—*Joseph F. Davis, æt.* 23, an American, a clerk in a store, distant about ten yards from where the Vanda had lain, was likewise attacked on the same day. This patient, as was the case generally, was treated with liberal doses of calomel, followed either by salts, castor oil, or senna. It was at this store that the pine-apples of the Vanda were deposited, and here all the customers were cheaply supplied. Davis himself, as he subsequently told us, eat an enormous quantity of this half-decayed fruit. He had at no time much prostration. This was the first patient that we saw on our arrival, he being then sufficiently convalescent to attend to his ordinary avocations. Even now, his eye and his skin presented a bright lemon color. This case also had been characterized by the slowness of pulse.

Case VIII.—*Calvin Davis*, æt. 16, an American, who took the place of his brother when he sickened on the 20th, was also attacked on the 24th. He was attended by Drs. Elting and Stringham. He was bled xvi. oz. on the first day of his sickness; and on the evening of the same day, he took 10 grains of calomel. He slept well, and appeared much better until the afternoon of the following day, when the pulse became more full and quick with considerable febrile action. We saw this patient too when he began to improve, and was under the use of stimulants and tonics. His eyes and skin were slightly tinged with yellow. He had eaten no pine-apples.

Case IX.—*John Colwell*, æt. 60, an American, who keeps a victualling-house, at the distance perhaps of 100 yards from where the Vanda had lain, was also taken sick on the 24th. After several days' confinement, he was again enabled to attend to his ordinary avocation.

Case X.—*Mrs. Ira Leach.* This case was attended by Dr. Stringham, who says that she came to Rondout with the symptoms of the disease, having been attacked on a barge while it lay at New York or Brooklyn. On her arrival at Rondout, the symptoms were, says Dr. S.,

> nausea and retching with an occasional discharge of a watery fluid, fever moderate, vessels of tunica conjunctiva injected, pulse below the natural standdard, both in frequency and force. Her bowels were now freely opened with calomel. On the next day, she was free from fever, pulse, forty-five per minute and easily compressible. Ordered brandy, under the use of which she gradually recovered. The eyes and skin now began to assume a yellow hue; and both were still yellow when seen by Dr. Vaché on the 28th of August, in a barge lying on the river.

Case XI.—*Richard Keator*, an American, æt. 25, was clerk in a store connected with the post-office, about ten yards from where the Vanda had lain On Friday the 25th, as we are informed by Col. J. T. Hendricks, he went down to New York with him on board a steamer; and on this passage, he complained of being very ill, with pain in his head and neck, having made the same remark to Col. H. several days before. He returned in the night-boat of Sunday, being obliged to keep his berth all the way; and as the point where Rondout passengers are landed is two miles from the village, he was still further exposed in travelling this distance. This case presented the ordinary symptoms of the disease. On Wednesday evening, Drs. Stringham and Elting wrote to Dr. Vaché as follows:

> Richard Keator is still in a critical situation; the fever has nearly subsided; prostration is extreme; the discharges from the bowels are bilious, and of a dark green hue.

On Thursday evening, Dr. S. again writes to Dr. V.—

> An unfavorable change has taken place in the case of Kichard Keator since last evening; the prostration is extreme, with bloody discharges from the bowels, and vomiting of a dark shred-like substance which floats in the fluids thrown off with it; paucity of urine. We think he will not survive the night.

He died early on Friday morning.

Cases XII., XIII., XIV., XV.—On the same day, took sick, Isaac Krom, a taylor, and a girl at A. H. Anderson's; and on the 29th, Augusta McEntee, aged 11 years, was also attacked. All had the disease slightly, and all recovered. Their residences were perhaps 300 yards from the position which had been occupied by the Vanda. A widow lady, æt. 45 was also attacked this day. "She lives," says Dr. S., in a letter to Dr. Vaché "from a quarter to half a mile from the dock, and she has not been in the lower part of the village for the last six weeks." She too recovered.

Case XVI.—*Robert Grove.* æt. 20. "He left Rondout on the 10th, four days before the arrival of the Vanda, says Dr. S. in a letter to Dr. V., "and returned on the 21st, two days after her departure. He was attacked last evening (29th.) He lives in the back part of the village, and he had not communicated with any one diseased." He became convalescent in a few days, but his skin and tunica conjunctiva were decidedly yellow.

Case XVII.—A child, æt. 6, who arrived here from the city of New York two days after the departure of the Vanda, was taken sick on Thursday, 31st. The little patient was attended by Dr. Stringham, who says that her symptoms were characteristic of the disease; but she became convalescent in a few days, when her mother took her back immediately to the city.

Case XVIII.—*George Canfield*, æt. 33, an American, a clerk in the store of J. D. Middagh, was attacked on the same day. He was taken with the usual premonitory symptoms of fever; tongue moist and lightly furred, slight nausea, and severe pain in head and slight in the back and at epigastrium. Treated by Drs. Elting and Stringham. He took this day (Thursday), calomel as a purgative, followed by Epsom salts and a Seidlitz powder. Evacuations dark green with whitish flocculi on the surface.

Friday. No change of symptoms—v. s. xx. oz.—spiritus Mindereri. Slight nausea still continues; stools black and generally of more consistency.

Saturday. More redness of the eyes; yellowness of skin, which is a new symptom in the case; constant change from better to worse and *vice versa;* great prostration. Ordered brandy, in the evening, one teaspoonful every hour. Stools thick and dark, which were compared to "grease from a cart-wheel."

Sunday. Towards evening, occasional delirium, pulse 80 and full, gastric irritability, and slight hœmorrhage from the nose, skin yellow, tongue moist and slightly furred in the back part, and very red at tip and edges. Brandy continued, being the only thing that the stomach could retain

Monday. On the morning of this day, the patient was first seen by us. He was now much prostrated; tongue had the same appearance as on the previous day; there was occasional vomiting, consisting of a dark bilious fluid, mixed with the blood which he was constantly swallowing as it flowed down his posterior nares. But much of this blood he was incessantly spitting out; and as he was in a state of delirium, he threw it over himself, his bed, and against the wall. Pulse 100, and easily compressed; the hæmorrhage from the left nostril continued since the preceding day, which we, however arrested; skin had a lemon-yellow cast; the alvine discharges consisted of a dark fluid, with shreds suspended in it. There was at no time a preternatural slowness of the pulse. There was now no hope of his recovery; the delirium continued, accompanied with hiccough and picking of the bed-clothes; the hands were also affected with tremors, and the muscles with subsultus; and at 4 o'clock P. M., he died. This was one of the most violent cases, the patient having died in four days.

This patient, as well as Jessup and Keator, is not supposed to have eaten any of the pine-apples. Canfield and Jessup, and also Merchant who recovered, all slept at Middagh's store, on the wharf, in a room on a ground-floor, close, damp, and destitute of all ventilation at night. The earth below this store-house is all made-ground to the depth of five feet since its erection, formed by the natural disintegration of the adjacent hills, mingled with the wash of the streets.

Upon the death of Canfield, we immediately resolved in connection with Dr. Jewett of Rosendale, (Drs. Stringham and Elting being now both confined to their houses by sickness,) to make a necroscopic examination, should it be allowed; and fortunately, just at this time, Dr. James R. Manley of New York, whose acquaintance with this disease extends over nearly the last half century, made his appearance.

The *post mortem* took place on Tuesday morning, seventeen hours after death. As all this time intervened before permission could be obtained to make the examination, and as the hour for interment had been designated, it was resolved to confine the necropsy to the abdomen. The body was not at all emaciated; it presented a fine development of the physical frame; and the external surface was of a lemon shade of yellowness.

The stomach contained a good deal of dark colored fluid, which was poured into a vessel; and as this patient was a reputed case of *black vomit*, it was examined attentively. It held in solution dark bile and perhaps blood swallowed on the preceding day; but it had not, in the least, the appearance of the coffee-ground black-vomit peculiar to yellow fever. The whole mucous membrane, with the exception of the pyloric portion, was in a state of high inflammation; and this tissue was partially disorganized, being readily rubbed off by the pressure of the nail. The liver, spleen, and intestines, were in their natural condition, while the gall-bladder was empty.

In view of the excited state of the public mind in the city of New-York and elsewhere, we immediately transmitted to the Resident Physician of this city, our opinion of the nature of the disease; and this certificate, as is seen below, was announced to the public under the official authority of his Honor, the Mayor. The result was such that all excitement ceased at once; and we shall ever remember with pleasure, that we contributed towards allaying a painful public excitement, and one too which might have led, as regards the commercial interests of this city, to the loss of millions of treasure.

MAYOR'S OFFICE, Sept. 6th, 1843.

The following certificate, transmitted to me by the Resident Physician, signed by James R. Manley, M. D., and Samuel Forry, M. D., of this city, and Edwin Jewett, M. D., of Rosendale, after personal examination on the spot of persons laboring under the disease, and of bodies of persons who died with it, affords *additional* satisfactory evidence of the nature of the fever prevailing at Rondout.

The great experience of Doctor Manley, his known ability in his profession and long connection with the Quarantine establishment of this city, gives to his opinion the perfect confidence of the city authorities.

ROBT. H. MORRIS, Mayor.

New-York, Sept. 6th, 1843.

To Robert H. Morris, Mayor and President of the Board of Health.

Sir—I received this morning, from Doct. Samuel Forry of New-York, now at Rondout, the accompanying communication. I leave it to your discretion to make it public. With very great respect, your obedient servant,

Alex. F. Vache, M. D., Resident Physician.

Rondout, Sept. 5th, 1843.

Dear Sir—I have the honor to transmit you the accompanying certificate. We have had a post mortem examination of the individual reported as having died yesterday. The disease is now a very plain one. Our opinions derived from the symptoms have been fully confirmed by the facts revealed by dissection. We regard the disease as quite amenable to remedies. The patient, I may add, was one of the most strongly marked, having died in five days after the first attack. Yours in haste,

Samuel Forry.

Alex. F. Vache, Resident Physician.

Rondout, Sept. 5, 1843.

We, the undersigned, from a full investigation of the character of the febrile disease now existing at Rondout—an investigation based upon the features of the disease in the living and the appearance of the internal organs after death—have arrived at the following conclusions:

1. The disease is a *Bilious Remittent Fever* with a great tendency to assume the typhoid type.
2. So far as our personal knowledge extends, and so far as we can learn from others, we are decidedly of opinion that there has not been a single case of *yellow fever* in this locality, nor has there been a single case accompanied with the *black vomit* peculiar to that disease.
3. As regards the question of the contagious nature of this disease, our opinion in the negative is equally decided.

James R. Manley, M. D., of New-York City.
Samuel Forry, M. D., " "
Edwin Jewett, M. D., Rosendale.

On the following day, it was signed by the three physicians of Rondout:

We, the undersigned, concur fully in the views expressed above.

John Wales, Surgeon, Rondout.
H. S. Stringham, M. D. "
Richard Elting, M. D. "

Case XIX.—*Abel Eaton*, æt. 18, an American, a clerk in Bevier's store, with Keator, was taken sick on the same day with Canfield. In this case, the fever ran its course in thirty hours, when the prostration that followed was very great; the stools were dark and offensive, but there was little or no vomiting. The treatment consisted of the free administration of calomel in the febrile and early stage; and subsequently, when depression supervened, of stimulants and tonics. This patient recovered. He had eaten freely of the pine-apples. He was treated at first by Dr. Stringham, and subsequently by ourselves.

Case XX.—*George Love*, æt. 35, an Irishman, employed as an hostler to a livery stable, was attacked on the first of September. We have no notes of the first three days; but we saw him on the fourth, when there seemed nothing unfavorable in his case. He was treated by Dr. Wales. On the fifth day, about two o'clock, P. M., he was suddenly prostrated. The countenance was expressive of great languor and oppression; delirium succeeded by manifest stupor and deafness; the tongue was brown, dry, and chapped, and the lips were also dry, chapped, and covered with the dry scabs of an eruption; the teeth and gums were encrusted with a dark, dry, and tenacious sordes; and the chest was marked with vibices. He continued in this state, with the signs of enfeebled innervation gradually becoming more marked; and on the sixth day, he became entirely listless with stertorous breathing, so that he could be no longer induced to show his tongue, which, on the previous day, had been protruded with great difficulty, being tremulous and not easily returned. Died in the afternoon. His residence was perhaps two hundred and fifty yards from where the Vanda had lain.

Case XXI.—*Watson Prentis*, æt. 33, an American, worked at boot-making in a shop on the strand. He also was attacked on the first of September. This man was under the treatment of a *Thompsonian* physician, but we had the privilege of seeing him at any time. The following description of his symptoms, we gave to Dr. Vaché on the sixth day of his sickness:

> Skin hot, dry, and yellowish—pulse one hundred and full—conjunctiva yellow, with the vessels much injected—inflammation of the throat and swelling of the tonsils, the mucous membrane of that region being of a deep and dark red, presenting the appearance of the early stage of malignant sore-throat—tongue covered with a dry dark coat along the centre, with very red tip and sides—much epigastric tenderness and gastric irritation. Is this yellow fever? The case will doubtless prove fatal.

On the following day, we wrote to Dr. V. as follows:

> As I anticipated in my letter of yesterday, the case under the care of the Thompsonian has proved fatal. Last evening, he offered to turn over the patient to me; but, upon a strict examination of the case, I concluded to let him finish his own work. The patient did not reach the stage of prostration or collapse usually observed; but he lay comatose and insensible, with a full pulse and stertorous respiration, from which nothing, except the pain caused by making pressure on the epigastrium, would arouse him. On making this pressure, he once exclaimed, as he turned his body—"Oh don't." He lived till near day-light.
>
> Having observed this case for some days, I urged all along upon the Thompsonian, the indispensable necessity of mercurial purgatives, the application of leeches to the pit of the stomach, and the use of blisters; but, as he continued his treatment with lobelia, "nerve-powder," "composition," etc., I looked upon the case as necessarily fatal.
>
> There are now no cases of sickness here that have in any marked degree, the features characteristic of the prevailing malady; but the diseases of every other kind, as is observed in all epidemics, manifest the peculiar character of the prevailing disorder.

It is quite possible that the peculiarity of this case may be due to the stimulating treatment used by the Thompsonians.

In this same letter, we make reference to the various reports of cases of death from yellow fever, in the surrounding country, in individuals who, it was alleged, had been on board the Vanda and had also perhaps eaten of the pine-apples. This was part of the scheme of the alarmists, to magnify the hugeness of their bug-bear. We wrote thus to Dr. Vaché.

> Among the several communications now before me is one from Dr. Cantine of Ellenville, showing that the reported case of death from yellow fever in a

boy who had been on board the Vanda, has no foundation in truth. His death was caused by eating some poisonous wild vegetable. Besides, the boy had never seen the Vanda, nor any of her pine-apples.

About this time, (September 10th,) there seemed to be a subsidence of the epidemic, as there had been scarcely a new case for the period of a week. On the 3d, Dr. Stringham had been attacked, and on the 4th, Dr. Elting; but this was merely a temporary suspension, for now there occurred a series of new cases.

In our further description of this disease at Rondout, we deem it unnecessary, with the exception of the cases of Drs. Stringham and Elting, to refer to any but the fatal cases.

Case XXII.—H. S. Stringham, M. D., was attacked on September 2d, that is, he was first confined to his room on this day, having complained of the premonitory symptoms on the two days preceding. On this case, we have taken copious notes, but we think it unnecessary to present more than the leading features. On the second and third days, he was well purged with calomel followed by senna, salts, etc., the evacuations being very dark and bilious; and on the fourth, he was doing well, the symptoms promising a speedy recovery. In the evening, however, a sudden prostration occurred, both physically and mentally, so that in the course of half an hour, he changed from hope to despair. Stimulants were cautiously given, as there was manifest epigastric tenderness, indicating the use of leeches; but as these could not be immediately obtained, a blister was applied over that region; and the next morning he seemed quite relieved both from his physical and mental depression. We were now treating the patient in connection with Dr. Jewett of Rosendale.

Early this morning, September 5th, leeches were applied to the epigastrium over the blistered surface, and these bites continued bleeding through the day. His improvement now seemed remarkable; but about 5 o'clock, P. M., prostration again occurred, but not so severe as on the preceding evening. This state of physical and mental depression came on regularly every day for a week or ten days; and when, in the earlier part of his sickness, he was in these states, the pulse showed little or no change from the natural standard, while the skin was often dry and very hot. Generally speaking, the skin was soft, the tongue covered with a yellowish fur and moist, in which it was unlike the other cases which usually presented, as the disease advanced, a tongue with red edges and tip, and a dry black streak along the centre. The case was at no time marked by gastric irritability. This condition, we observed, was least apt to follow, when the depleting plan of treatment was pursued.

On Tuesday, the 5th, Dr. Manley of New York saw him in consultation with Dr. Jewett and ourselves.

On Wednesday morning, quinine was prescribed; but in the evening, the usual sinking fit recurred, when blisters were applied to the nape of the neck and the calf of each leg.

On Thursday morning, he was free from all unpleasant symptoms. Skin and pulse were natural, tongue moist and coated, the edges pale. Continued quinine and more nourishing diet, as well as brandy occasionally. On Friday and several succeeding days, he continued in the same favorable condition, with the exception of the sinking state which usually took place toward evening.

On Saturday Dr. Manley returned to Rondout. It was now concluded to continue the mercurial treatment with a view to its constitutional effect, and to pursue a tonic and occasionally a stimulating treatment, with nourishing diet.

About a week after the application of the leeches, two of the bites began to bleed freely, which resisted all the ordinary modes of arresting it for several days. Even the actual cautery arrested the hæmorrhage but temporarily, but it was finally completely stopped by the pressure of a tourniquet. This indicated a low condition of the vital powers; but the patient when in health has weak physical stamina, he being a confirmed dyspeptic. Up to the tenth day of sickness, the skin exhibited no appearance of yellowness; but now it, as well as the conjunctiva, became very much so, and continued the same up to the twentieth day of his confinement, when we left Rondout. Dr. S. was now merely able to sit up a few hours during the day. As we were leaving, we happened to refer to the time spent with him, when he expressed great surprise, supposing that we had been there but several days. He had, in truth, spent nine-tenths of the time in a drowsy and comatose state.

Case XXIII.—*Richard Elting*, M. D. This case was but slightly marked, and he was confined to his house not more than two or three days. He was attacked on the 4th September, after having undergone a great deal of fatigue professionally.

Case XXIV.—*Joseph Hunter*, æt. 30, a Scotchman, employed as a hand on board the steamboat Norwich, was taken sick on the 5th September. He had been engaged for several days in putting a coat of white paint upon the outside of the Norwich, and this too when the thermometer in the shade was 90° of Fah.; and, at the same time, he was working in the sun, where the heat was still more augmented by reflection. Besides, he performed, on the day that he took sick, the feat of eating twenty-four fine large peaches. Dr. Manley saw him first, and prescribed for him a mercurial cathartic; but as he left for New York on the same evening, the patient was subsequently attended by Dr. Jewett and ourselves. On Wednesday and Thursday, he was still further purged with calomel, the evacuations being dark and bilious; and in the mean time, as there was considerable febrile excitement, blood was taken from the arm, and leeches were also applied to relieve the epigastric tenderness. About this time, some of the symptoms peculiar to the prevailing affection made their appearance, such as yellowness of the conjunctiva with injection of the vessels of that tissue; but the tongue was always moist and slightly covered with a yellowish fur. On Saturday, Dr. Manley, who made a second visit to Rondout, considered the patient to be doing well.

As regards ourselves we felt a more than ordinary interest in this patient, from the circumstance that he had been a soldier in the United States army, during which time he had been twice our patient, viz., once in Florida and again in the Cherokee nation in Tennessee; and he, on his part, had in us the most unlimited confidence, saying that his case was but a "small affair" compared with a Florida fever.

The patient all along evinced no symptoms of sinking; and he seemed, especially after the application of the leeches, to be quite free from local lesions. Tonics, especially quinine, were now employed.

On Monday, at 12, M. Drs. Elting, Jewett, and ourselves, saw the patient in consultation, and we concurred in the opinion that he was now out of danger, his case being one of mere debility; but, at 3 o'clock of the same day, as the patient rose to go to stool, he suddenly felt faint and the extremities became cold; and in one hour after, he was a corpse!

Drs. Jewett and Elting, as they happened to be in the patient's immediate vicinity, were soon at his side; but all their efforts, consisting of the administration of half a pint of brandy and the application of Cayenne pepper externally, aided by the frictions of three individuals, proved unavailing. This was very like the collapse of cholera. Instead of *black vomit*, there were discharges both by the mouth and rectum, that closely resembled the *rice-water* of epidemic cholera. There was some spasmodic action in the extremities; and the patient maintained his senses to the last, exclaiming—" *Oh! if I could only get warm*."

There was little gastric irritability throughout the progress of the disease; but after death, the surface of the body presented a decided yellowness of the lemon tinge.

The result of this case took us all aback. Believing that the depleting plan, in connection with mercurials, in the cases that had proved fatal, had not been sufficiently carried out before resorting to stimulants, and having seen in a number of cases treated in connection with Dr. Jewett, the value of this mode in the early stage, we now felt a consciousness that this disease defied all the powers of human skill and science, illustrating " *the destruction that wasteth at noon-day*."

Case XXV.—*Thomas Clark*, æt. 30, an Irish laborer, took sick on the 6th September, and died on the 11th. He was under the treatment of Dr. Wales, and we saw him every day. He had all the peculiar features of the disease, such as yellowness of the skin and conjunctiva, with injection of the vessels of the latter tunic, tongue scarlet at the tip and along the edges with a dark streak along the centre, and epigastric tenderness, with gastric irritability; and when in the sinking state, there occurred the additional symptoms of great languor and oppression, delirium followed by stupor, and an encrustation of the teeth and gums with sordes. In this state he died, having several times vomited a dark green-colored fluid. This man worked in the coal-yard of the Delaware and Hudson Company, but lived about half a mile from where the Vanda had lain.

Case XXVI.—*Patrick Kaley*, æt. 30, an Irish laborer in the coal-yard of the Delaware and Hudson Company, but living about a mile up the Roudout, near Wilbur, took sick on the 8th and died on the 15th of September. This patient was attended by several medical men by turns; but we saw him only on the evening before he died, when we deemed it scarcely necessary to make an effort to save life. He died on the following morning. After death, his skin was very yellow. The symptoms, on the previous evening, were as follows: extreme gastric tenderness, with occasional vomiting of a dark bilious matter, tongue very dark along tho centre with very red edges and tip, some sordes about the teeth and gums, delirium and stupor, yellowness of the skin and eye, with injection of the vessels of the conjunctiva.

Case XXVII.—*Barney Brian*, æt. 35, an Irish laborer working in the same yard, and living on the elevated part of the village, about half a mile from where the Vanda had lain, was attacked on the 9th, and died on the 14th of September. We saw him several times, and his whole case bore a strong resemblance to the one just described. He, too, was treated by Dr. Wales.

By this time nearly all excitement at Rondout had subsided, the occurrence of the last three deaths having had little or no influence upon the public mind. These men, it is well understood, seldom seek medical relief in time; and when they do have it, they are badly nursed, and even the direction for the administration of the medicines prescribed, is seldom obeyed.

CASE XXVIII.—*Emeline Freeman*, æt. 25, of mixed origin, (her grandfather being an Indian and her grandmother a negress, her father a half blood Indian, and her mother a white,) who was employed as a domestic at the Hon. Mr. Hasbrouck's, took sick on Friday the 8th of September, and died on the 15th. Her fever, from the beginning up to Wednesday morning, was a *simple continued fever*, with a pulse of one hundred and a dry skin, and the tongue was moist and covered with a white fur; but on the morning of Wednesday, there was a slight remission; and on the following morning, the remission was so distinct that we pronounced her apparently better. On the following night, however, sinking of the powers of life suddenly supervened; and by 9 o'clock next morning, she was a corpse. This case during life had not one of the peculiar symptoms of the prevailing fever. Epigastric tenderness, yellowness of the skin and conjunctiva, with injection of the vessels of the latter, preternatural slowness of the pulse, and the tongue dry and dark along the centre with red edges and tip, were all wanting! She was treated chiefly by mercurials as a purgative and alterative, by mild diaphoretics, sinapisms to the epigastrium, etc. After death, however, both the skin and eyes were yellow; but of the extent of change from the naturally yellow tint of these parts, we could not determine.

It may be here added that among the small number of colored persons in Rondout, the majority was attacked with the prevailing disease, or at least with what is known by the name of a "bilious attack"—a fact which becomes of some importance, when taken in connection with the circumstance that this variety of the human race is usually considered as possessing an exemption from yellow fever.

We deem this detail of thirty-two cases, including the four cases on the Vanda previously described, as quite sufficient in the way of illustrating the peculiar nature of the disease. We have had the notes of another case, which have become mislaid, being that of Mr. Beaver, residing, perhaps, eight miles below Rondout. His symptoms were characteristic of the prevailing fever, the skin and eyes being of an intense yellow. After three or four days, the fever terminated in a tertian ague. He had no connection, we think, with Rondout.

As regards the total number of cases that occurred here, it is difficult to arrive at a precise result. Of those having the yellowness of the skin and eye, which were the most general symptoms, we may safely say that, during the thirty days commencing with the 19th of August, when the Vanda left, there were at least forty cases. The following table gives the deaths at Rondout in the order of their occurrence:

Names.	Ages.	Employment.	When taken sick.	When died.	Period of sickness.
1. Hiram V. Jessup	22	Clerk at J D. Middagh's	August 19	August 25	6 days
2. ——— Lavin	40	Irish laborer	" 19	" 26	7 "
3. ——— Harris	30	Do.	" 20	" 24	4 "
4. Richard Keator	25	Clerk in store at Post-Office	" 27	Sept'ber 1	5 "
5. George Canfield	33	Clerk at J. D. Middagh's	" 31	" 4	4 "
6. George Love	35	Hostler	Sept'ber 1	" 7	6 "
7. Watson Prentis	33	Bootmaker	" 1	" 8	7 "
8. Joseph Hunter	30	Hand on board Norwich	" 5	" 11	6 "
9. Thomas Clark	30	Irish laborer	" 6	" 11	5 "
10. Patrick Kaley	30	Do.	" 8	" 14	6 "
11. Barney Brian	35	Do.	" 9	" 14	5 "
12. Emeline Freeman	25	Domestic at Mr. Hasbrouck's	" 8	" 15	7 "
Average period of sickness	-	- . .	- -	- -	5⅔ "

Of these fatal cases, we have a personal knowledge of all, with the exception of the first four. The ratio of deaths to the number of cases may be estimated at 1 to 3½, and the average period of sickness at something less than six days. We find this mortality to be considerably less than in the yellow fever epidemics of the City of New York; but the number at Rondout is too small to be a fair comparison. In New York, in 1803, 600 cases and 262 deaths were reported to the Board of Health; in 1819, there were 63 cases and 43 deaths; and in 1822, the cases numbered 411, and the deaths 240.

We will here bring under notice two other fatal cases, which occurred in individuals who had been exposed to the locality of Rondout.

Case I.—*Samuel Jessup*, æt. 33, a brother of Hiram V. Jessup, residing at Piermont, on the Hudson, twenty-two miles from New York, went to Rondout, on learning the illness of his brother. Contrary to the newspaper statement that he nursed his brother, he reached there after his death, and after the departure of the Vanda. He returned to Piermont, and took sick on the 28th or 29th of September, his brother's funeral having taken place on the 26th. Dr. Richard K. Hoffman, of New York, having been called in consultation, Dr. Vachè addressed him a note, requesting him to state his opinion of the nature of the disease. To this the following reply was made:

> Dear Doctor—In reply to your note of this date, I have no hesitation in stating the disease of Mr. Jessup, at Piermont, to be, in my opinion, BILIOUS REMITTENT, and NOT THE YELLOW FEVER. I remain yours, truly,
>
> Rich'd K. Hoffman.
>
> Dr. Alex'r F. Vache.

This Jessup died on the 4th September, after six or seven days' sickness, not more than two days having intervened between the time of his exposure at Rondout and of his attack at Piermont. What rendered him peculiarly susceptible, was the fact that he labored under two of the strongest predisposing causes to the action of epidemic agents, viz., fear and depression of spirits. It cannot, however, but be regarded as an extraordinary circumstance, that about this time two men died at Yonkers, which is two miles nearer to New York than Piermont, but on the opposite side of the river. One of these, who died on the 25th of September, had an extremely yellow skin, and a vomiting of what the attending physician designates as "dark coffee-ground matter;" but he shows, as will be seen in the sequel of this paper, that the disease was *indigenous;* and of similar cases, we will give examples which have occurred in New York City, in Brooklyn, and on Staten

Island—all going to prove that the fever at Rondout was but the manifestation of a widely extended cause.

Case II.—*William Mather,* an engineer to the steamboat Victory. The following history of the case we received from Dr. Vaché, while we were yet at Rondout:

> Mather was taken sick in Rondout last Friday. He came to the city in the Victory on Saturday, having taken when on board calomel and castor oil; and on his arrival here, he went to his father's residence in Broome-street. Complaining of headache, his mother gave him castor oil on Sunday, and sent for Dr. Hunter the elder, who prescribed an emetic. He almost immediately commenced vomiting—strained violently—and continued to do so until the next day, (Monday,) when Dr. H. reported him to me as a case of Rondout fever. I found him greatly prostrated, that is, complaining of excessive debility—pulse 60—eye clear—tongue tolerably clean and moist—skin rather cooler than my own—hiccup—vomiting and purging at intervals, and had been doing so since he took the emetic, and straining violently and with considerable effort. The fluid voided seemed to be his drinks, and a small quantity of a dark grumous shred-like substance, resembling bleached or discolored blood, and easily retained in the hand when fished from the vessel. Stools dark. Directed with Dr. Hunter a blister to the epigastrium, and lime-water and milk as a drink. At noon, saw him again with Dr. Manley—vomiting less frequent, but other symptoms the same—directed sulph. quinine grs. viii., and soda powders freely as a drink. Evening—pulse about 80—continued same treatment. Tuesday morning—pulse 60—had slept all night—no vomiting. While waiting for Doctor Hunter, he vomited once a dirty, slimy substance, perhaps a gill—hiccup—tongue more dry and dark. Directed spirits of camphor in small doses for the hiccup, which immediately allayed it—continued the treatment. Noon—tongue more dry and thickened—occasional hiccup—coma increased. Directed yest and charcoal, and porter—no vomiting during the day. Wednesday morning—pulse the same—tongue retracted and thickened, very dark—sordes about the teeth—stupor very great—directed milk punch in such quantities as he could be induced to take. Noon—all the symptoms aggravated—refuses to receive any thing—breathing very short. Evening—dead! Certificate, died of TYPHUS.

We have thus laid before our readers the symptoms by which the malignant fever at Rondout has been characterized, leaving each one to draw his own conclusion as to its nature. At the same time, it is incumbent on us to add, that, as regards the black vomit peculiar to yellow fever alleged to have occurred in a number of cases at Rondout, *the assertion does not rest upon the personal observation of a single physician.* The three physicians at Rondout, it has been already seen, put their names to the certificate signed by Drs. Manley, Forry, and Jewett. Nor is the yellowness of the skin by any means pathognomonic of yellow fever; for this yellow suffusion of the surface is frequently seen in the severe remittents of every part of the United States; and likewise in Bengal, where yellow fever, according to Twining, can scarcely be considered an endemic, the more severe remittent fevers are every year characterized by an intense yellow hue of the skin. In this form of disease, according to Twining, the patient often sinks gradually into a state bearing some resemblance to syncope, and to the collapse that supervenes upon the low form of cholera; and in other cases, after two or three slight paroxysms, when no danger is apprehended, prostration suddenly takes place without any obvious cause, and within an hour death follows. Now, these phenomena correspond exactly with some of those witnessed at Rondout, but the greater number were characterized by the supervention of typhoid symptoms.

A striking illustration of the sudden retreat of the blood to the central organs, is afforded in Case XXIV. (Joseph Hunter); the patient, when no danger was apprehended, having died in two hours, with the symptoms of the collapse of cholera. These different forms of the malignant grade of remittent fever are well described by Professor Eberle. Death, he says, not uncommonly happens in the third paroxysm; and if the disease persists beyond this period, great prostration suddenly supervenes, the skin is either clammy cold or pungently hot, delirium coexists, and not unfrequently vibices, petechiæ, and hæmorrhages,—in a word, all the signs which characterise typhus fever. This description answers to the majority of fatal cases at Rondout.

By Dr. Cartwright of Mississippi, well-known for his valuable writings on fevers, in describing an epidemic remittent fever, which prevailed in Monroe county, Mississippi, in the autumn of 1822, phenomena analogous to those presented in the cases at Rondout, are shown to have existed. The skin, for instance, began to acquire a *yellow color* during the third paroxysm. In Florida, we have ourselves seen cases of remittent fever, having this yellow suffusion strongly marked.

Throughout the United States, the more malignant forms of remittent fever, especially when occurring during unhealthy seasons, as for instance, in the present one, characterized by the recent general prevalence of *bilious* influenza, these same *congestive* complications have been not unfrequently observed. This is not the first time, by any means, that the State of New York has experienced an indigenous visitation, like that of the fever at Rondout; and at no period of time, keeping in view the history of epidemic influenza in that locality, could it have been, with better reason, expected. But this point has been already fully illustrated.

It is remarked by Noah Webster, LL.D., in his "History of Epidemics," and, long before his time, by Sydenham and Sennurtus, that influenza is the disease most clearly connected with malignant fever and angina, epidemic dysentery, plague, etc., which it usually precedes. The same view of the question is maintained in the "Cyclopædia of Practical Medicine." Thus—

> It is a rare thing that any one form of epidemic disease rages alone, that is, without being preceded or followed by another. Different forms of epidemic diseases usually succeed each other in a series, either in the same year or in different years: and this is called an epidemic constitution. Sydenham was, of all English physicians, the chief observer of these phenomena, and was pre-eminently entitled to the appellation of the English Hippocrates.

Lord Bacon, whose mental constitution was of a character not to allow his own fancies to supply his natural facts, framed the aphorism, which experience has since repeatedly confirmed, that "the lesser infections of small-pox, purple fever, agues, &c., in the preceding summer, and hovering all winter, do portend a great pestilence the summer following."

Upon this point, Dr. Webster remarks—

> That yellow fever never occurs in the temperate latitudes of America, except under a pestilential constitution of the air, manifested by other malignant diseases; and that it has been preceded by acute diseases, and followed by remittents, dysentery, and malignant pleurisy.

Indeed, the history of every pestilence shows that it never comes alone, but that it is the crisis of a series of minor and unusual diseases, as was observed at Rondout. Thus as the forerunner of yellow fever, we have usually a malignant remittent, which, as the epidemic declines, often appears again. Here then is presented the difficulty, which has been the subject of dissension among the faculty for years, of distinguishing between this malignant fever and the *bona fide* pestilence. This is well illustrated by Dr. Halloran:

> The occurrences which preceded the epidemic of Barcelona in 1821, correspond with the old and recent observations on a similar subject in other countries; it almost invariably happening that the yellow fever of Spain is preceded by unusual diseases of various form and force, more particularly by bilious remittent fevers, which are often so aggravated and malignant that physicians themselves do not venture to define the line of demarcation between them and the avowed epidemic.

We adduce these facts, especially to show that the malignant fever at Rondout was but the crisis of the violent and unusual diseases prevailing there for some two months, instead of being the result of an infection introduced by the Vanda. Upon this point, we cannot forbear introducing the following remarks from the "Cyclopædia of Practical Medicine:"

> Physicians, therefore, have perplexed themselves with the most unaccountable dilemma that ever found its way into any science. They have acknowledged a disease called malignant fever, which has ushered in an epidemic pestilence, *to be their own*, or at least the product of the country where it appeared; but as soon as a little change in its character has taken place, (which amounts to nothing more than a change in degree, not nearly so great as that which takes place in the pestilence itself, in the short course of its career,) which change in a few months is put off again, *then* it is to be accounted of foreign origin, and ships and goods are condemned as the supposed channels of introduction.

This applies both to the plague and yellow fever; and looking back to the epidemics of 1822, 1819, 1805, and so on, New York may take perhaps to herself the remark of Dr. Rush, that "Philadelphia must admit the unwelcome truth sooner or later, that the yellow fever is engendered in her own bowels." It is certainly most philosophical to ascribe the production of epidemic pestilence to the country in which it rages.

Moreover, it is further shown by Dr. Webster's erudite researches, comprising the space from the days of the Bible up to his own times, that the periods of extensive pestilence and mortality in man's history, have been remarkable for extraordinary phenomena in nature, such as volcanic action, meteors, tempests, inundations andextreme irregularity of the seasons. Although we may not subscribe unqualifiedly to these deductions, yet it is a fact too well known to be questioned, that unusual weather and intemperate seasons are often either the antecedent indications or the concomitants of a pestilential epidemic. This irregularity and intemperature of the seasons, that is, extremes of the weather, have been so frequently observed, not only in modern times, commencing with the histories of the plagues of London in 1625 and 1666, up to our own day; but, in referring to the pages of Thucydides and Livy, in their descriptions of the plagues of Athens and Rome, we find the same natural signs recorded, either as antecedent indications or concomitant phenomena.

Now, let us survey the meteorological phenomena of the current year, at home: January was extraordinarily mild; February and March ran into the opposite extreme; April was more than ordinarily wet and cold, thus protracting the winter into May. Even as late as the last of this month or perhaps the first of June, when the fields had scarcely gotten rid of the late snows, there occurred another snow-storm, sweeping across our northern borders much to the injury of vegetation. Meantime, appeared a most marvellous celestial phenomenon, which, though it ultimately proved to be a comet, yet came in such a "questionable shape," that it was long designated "the strange light." As summer advanced, the heat became most intense, often rising to 100° Fahrenheit in the shade, and this was not unfrequently protracted for days. In June appeared an epidemic influenza, simultaneously along our northern parallels, which has since, in its universal sway, gradually swept south over the whole of North America, and which is now prevailing in the southern hemisphere. In our own region, if not elsewhere, this epidemic has been characterized, in many districts, by a strongly marked bilious type; and at Rondout and its vicinity especially, during the months of June, July, and August, it produced in individuals the symptoms of yellowness of skin and eye, the vomiting of a dark, flaky, bilious matter, a preternatural slowness of the pulse, epigastric tenderness, and great prostration of the vital powers. Finally, when the disease had reached its acmé of malignancy, a number of cases, already detailed, proved speedily fatal.

In the sequel, evidence will be presented showing satisfactorily that the malignant fever at Rondout, the result, doubtless, of the meteorological and morbid phenomena above detailed, was not confined to that locality; but that, epidemic and indigenous in its nature, it has appeared in various other places. This conclusion is based upon the private correspondence of the Mayor and Resident Physician, which now first sees the light of day. The writers of these letters surely deserve, nor will they fail to receive, the thanks of the community, in view of having addressed their communications, unlike the Kingston correspondent, to the Board of Health.

We may here add, that in the malarial regions of the West and South, remittents, and also intermittents, are essentially congestive in their nature; and when this extreme congestion of blood in the great central organs occurs, constituting the "*congestive fever*," the disease becomes alarmingly fatal. Under these circumstances, in our South-western States and in Texas, it is known by such expressive epithets as "*the cold plague*" and "*the battle-axe of death*."

> "Venous congestion," says Professor Paine, "whether in its local forms, or connected with idiopathic fever, appears to be greatly owing to miasmatic poison; and in these instances, it manifests its worst modifications. It, therefore, prevails most in particular latitudes, and in certain places. In America, north of the latitude of New Haven, (Connecticut,) it is comparatively unknown, except when occurring in connection with typhus fever; the true typhus being also limited, on this continent, to the regions north of that line." *

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* Medical and Physical Commentaries, Vol. II. p. 219.

It would be no very difficult task to show that there annually appears in some locality, even within the State of New York, a violent endemic analogous, in many respects, to that of Rondout. We are informed, for instance, by Dr. Edmund G. Rawson, now a member of the Board of Aldermen of this city, that at Broadalbin, Fulton county, New York, about forty miles north-west of Albany, there prevailed in the summer of 1831, under his personal observation, a bilious remittent fever, with a strong tendency to the typhoid type, and characterized, in the majority of cases, by a *yellow suffusion of the skin and a muddy eye.* The disease was limited to the village and the surrounding country within two or three miles; and the fatal cases occurred mostly in the village and the immediate vicinity, there being nine or ten deaths among, perhaps, fifty cases. In this locality, no intermittent fever ever originates, nor is it subject to remittent fevers. The population of Broadalbin was then only about 250, which is, perhaps, one-seventh of that of Rondout.

A similar disease prevailed, last year, in the healthy village of Delhi, on the Delaware river, in this State. For an account of it, we are indebted to Dr. Ebenezer Steele, who styles it a " fever of the remittent form, with a strong tendency to assume the typhoid type."

> " The number of cases," he says, " which occurred within the bounds of the village, which has a population of 1000, were from 160 to 170; and of these, probably two-thirds were, after a few days' confinement, relieved by timely remedies. The number of deaths were eleven. The same fever prevailed in other parts of the town to some extent; and in the summer and autumn of 1841, it was rife in the towns of Kortureght and Harper's Field, and in Noxbury it continued even into the winter; proving fatal, taking the total of all these places, to a great many."

Since the receipt of this communication from Dr. S., we have had a personal interview with another physician of the same place, Dr. Ferris Jacobs. He says that some of the cases *proved fatal in six or eight days, and that after death there was decided yellowness of the skin and tunica conjunctiva.*

Now, in the particular modification of fever that occurred at Rondout, the effects of the venous congestion were manifested by a sinking, bearing a considerable resemblance to the collapse of epidemic cholera, the coldness persisting until death; or else it was evinced, as more generally happened, by all the symptoms that characterize typhus fever.

It may not be amiss here to add, that on our return from Rondout, after having investigated the disease for the period of nineteen days, we were asked by his Honor the Mayor, as President of the Board of Health, whether our subsequent researches confirmed the opinion given on the second day after our arrival at Rondout, as expressed in the certificate given on a preceding page. To this we replied in the affirmative, averring that every day of the nineteen spent there gave additional confirmation to the opinion, that the disease was a *malignant remittent fever, with a great tendency to assume the typhoid type;* but that, inasmuch as it is easier to make a distinction of disease in theory than to realize it, in some instances, in practice, we would not quarrel with any one who should designate it an *indigenous and a non-contagious yellow fever.*

As there is but little in the medical topography of Rondout that will serve to explain the occurrence of this violent disorder; but as, on the contrary, it has always had a general salubrity in keeping with its physical features, it may be well to inquire whether the most healthy localities, as for instance in the granite region of New England, have not suffered, at irregular periods, endemics and epidemics equally violent. We here find in a population of 1600 or 1800, in the course of one month, a mortality of twelve individuals; and with this, let us compare the facts relative to the diseases and epidemics that have prevailed since 1735, at Deerfield, Massachusetts. We select this place, because we find an excellent paper on the subject by the venerable Dr. Stephen Williams, among the "Communications of the Massachusetts' Medical Society."

In 1735, there prevailed here an epidemic scarlet fever, which ravaged the whole of New England, and which was so fatal as to be called the "plague among children." It was again prevalent here in 1742. In 1750, the measles and "canker-rash" were rife; and in the following year, the dysentery prevailed. In 1756, the "canker-rash" was again prevalent; and in 1775, there occurred a "lung fever." In 1777, both small-pox and dysentery were rife; and of the latter disease, which prevailed extensively also in the towns of Greenfield, Shelburne, and Conway, there died in the first, fifty—in the second, eighty—and in the third, seventy-three. The population of these places were, in the order of their occurrence, 900, 700, and 1000. As these deaths occurred during the "*season*," which may be estimated at three months, it follows that the mortality must have been much higher than what occurred at Rondout. Thus, among 1000 inhabitants, the ratio of mortality per month was, at Greenfield, 19—at Shelburne, 39—at Conway, 24—and at Rondout, only 7! From 1792 to 1795, the "canker-rash" again prevailed extensively in Deerfield. In the spring of 1803, Deerfield had a visitation of the measles as an epidemic, which was "followed in the summer by one of the most severe and mortal dysenteries which ever prevailed in this part of the world." At Conway, where it also was prevalent, the total of deaths for this year, in a population of 2000, was 84, of which sixty were from the dysentery; and as regards Deerfield, our author remarks:

> When we recollect that the disorder did not spread much out of the main street, and that it was confined almost to a population of not over 500, we come to the conclusion, that it was almost as fatal as the yellow fever in Philadelphia in the year 1793, in proportion to the number of inhabitants.

In 1807, the "spotted fever" prevailed at Deerfield; and as regards its virulence of action, Dr. W. gives the following example, which more than rivals even the Rondout fever:

> To show the rapidity of the action of the complaint, I will mention the fact that my father was attending upon an obstetric case in that neighborhood, when one of the attendants, an aged lady, was taken unwell and went home. She grew worse and sent for him, but he could not be spared. He went to her as soon as he could be released, which was in the course of an hour or two. When he arrived, the old lady was in the agonies of death, and she very soon expired. Very soon after, a little grand-daughter of the old lady was attacked in my father's arms, with the same complaint, and in a few minutes it died. While the attendants were laying out the old lady and child, the mother of the child and

daughter of the old lady, were attacked with the same complaint, and in less than twelve hours from the first attack of this fever in this family, the grand-mother, mother, and the grand-daughter lay corpses in the same room!

Early in the winter of 1814, a malignant epidemic, the pneumonia typhoides, or *war-fever*, as it was called, in consequence of having first appeared in the army, on the Canadian frontier, made its appearance at Deerfield; and in this village, in the short space of two months, it destroyed twenty-eight persons.

"This complaint," says Dr. W., "was confined almost exclusively to old people; and it is a fact worth noticing, so far as my observation extended, not a person over sixty years of age, ever recovered from an attack of it. It was extremely mortal, and the symptoms rapidly ran on to typhus, and speedily terminated the life of the sufferer."

In 1831 and '32, the scarlet fever was very prevalent in Deerfield and the surrounding country; and in the former year, there were fifty deaths in Deerfield, principally from this disease. In 1841, dysentery was again rife in Deerfield, the disease seeming "to follow the course of streams."

These are, of course, only the principal epidemics with which this locality was visited in the course of a century; and these facts are here presented merely to show that the violent disease at Rondout is not a phenomenon without numerous parallel instances, in many of our most healthy localities. Even at Rondout, during the same period of the preceding year, as before stated, the mortality from dysentery and scarlatina was equally high.

We will now lay before our readers the private correspondence of the Mayor, as President of the Board of Health, and of the Resident Physician, showing that a disease, in many respects analagous to that which prevailed at Rondout, has appeared in other localities, and that the individuals affected had had no connection either with Rondout or the schooner Vanda.

Cases I. and II.—These cases occurred at Yonkers, a small village, situated at the mouth of a stream emptying into the Hudson, twenty miles from the city of New York. The following letter from Dr. Gates was in answer to one addressed to him by the Resident Physician:

Yonkers, Sept. 21st, 1843.

Dear Doctor,—By your request I send you some of the particulars of the most severe case of fever that has occurred here this season.

William Kerr, aged 32, of good habits and sound health, was attacked with symptoms of fever in the evening; and after passing a restless night, he sent for me early in the morning of the 18th August. I found him with a strong, full pulse, whitish loose fur on the tongue, offensive breath, great heat and thirst, a little nausea, violent pain in the head, back, and limbs, with a sense of fatigue and restlessness, urine scanty and high-colored, and bowels natural. V. S., cold applications, &c., partially relieved the head. From the effect of medicine, he threw up some, and discharged freely of very bilious matter. These symptoms continued nearly the same till the 21st, when there was a slight remission.

On the 22d, all the symptoms were more severe; skin and eyes yellow, occasional delirium, extreme thirst with burning sensation in the stomach, and very obstinate singultus, tongue but little furred, darkish and dry in centre, and breath very offensive.

23d. Hiccup continuous, yellowness intense, extreme thirst, very restless and sinking, sense of weight and burning at stomach, threw up at different times, a pint of dark coffee-ground matter.

24th. Throws up some, and discharges some of same matter from bowels; very restless, and nearly senseless; died at three that night.

Another young man died about twelve days after, on about the thirteenth day of his disease, whom I did not attend; but I am told his symptoms were similar, but not so urgent.

I have had a few other cases of bilious fever, all recovering. These diseases are all endemic, and entirely non-contagious. Yonkers is a healthy town; it has mostly a gravelly soil; and it is as healthy this year as usual.

Very truly, yours,
A. W. Gates.

Alex. F. Vache, M. D., Resident Physician, N. Y.

Being further interrogated by Dr. Vaché, he wrote as follows:

Yonkers, Sept. 26th, 1843.

Dear Doctor,—Kerr, whose case I described, had not been out of Yonkers in months, excepting occasionally to New York. He was last there two weeks before he sickened, called on one or two men in Hudson street, with whom he had business, and returned the same day that he went.

The other man who died had not been out of the town for some weeks previous to his sickening. As I have never seen a case of what would be called an epidemic yellow fever, I therefore could not pretend to identify the black vomit. That which Kerr threw up was unlike the dark jelly bile of a greenish tint, which is often vomited in fevers, and as unlike the same substance which I have seen, with a Spanish brown tint; but it was of a dark brownish color in small granules or flocculi mixed with, but not dissolved in, mucus, or what had been taken into the stomach, and it had little or no odor.

It will always give me pleasure to give any information of the kind, if in my power.

Yours very truly,
A. W. Gates.

From the description here given, we will allow every reader to draw his own conclusions as to the character of the disease of which these men died, especially the one named Kerr. Dr. Gates himself considers "these diseases as all endemic and entirely non-contagious;" in other words, he looks upon Kerr's case as one of *domestic* yellow fever. Kerr died on the sixth day of his sickness, which is just the average of the cases at Rondout, independent of having a striking peculiarity in some of the symptoms. Now, according to the second letter, neither of these men had had any connection with Rondout, with the Vanda, or with any supposable cause of infection of imported origin. The day on which Kerr took sick, the Vanda was innocently taking in her coal at Rondout.

Since the above has been put into the hands of the compositor, a report has gained circulation in this city, that Kerr, who was a dealer in mahogany, had gone, in the port of New York, on board of a vessel from St. Domingo, laden with that kind of wood. To ascertain the truth of this rumor, Dr. Vaché wrote to Dr. Gates a third time. The following is the reply:

Yonkers, Oct. 15, 1843.

Dear Doctor:—Yours of the 10th inst., was duly received; but I could not till now obtain the information I wished. Kerr, in company with two other men, was engaged in the business of *sawing* mahogany, at Yonkers, for the mahogany dealers in New York. They do not, however, receive the timber from the vessels, nor does their business ever call them on board of vessels. When Kerr was last in town, two weeks before he sickened, he went and returned the same day, with a neighbour, who tells me that they were together all the time, except about one hour—that they were not on board nor near any vessel, and that he does not believe that Kerr was on board any vessel during that hour of absence, for he said that he had business with a man in the city. Kerr's wife and his two partners say that he had not mentioned to them any thing about having been on board a vessel, and that he was not in the habit of going on board; nor do they believe that he did so.

It was reported here about the time of his death that *the vessel* which went to Rondout, was loaded with mahogany, and that Kerr went on board of her to make a purchase, when she was opposite to Yonkers; but this report we all know to be untrue. Yours very truly,

A. W. Gates.

Dr. Alex. F. Vache.

Cases III., IV., V., VI., VII.—In the latter part of August, there occurred in the city of New York, five cases of disease, of which several partook strongly of the epidemic character. Two of these are referred to in a following affidavit, made before his Honor the Mayor, by Cooper; a third is the case of Dr. Atkins, described below; and four other cases, two of which are included in Cooper's depositon, are furnished by Dr. E. Conway. These five cases are here associated in consequence of an obvious connection. Two of them proved fatal, with strongly marked symptoms, in the way of yellowness of skin and eye, and a vomiting of blackish fluid, designated, by some, *black vomit.* The following affidavit, taken by the Mayor, in the words of the deponent, gives the history of two of the cases, of which, one recovered.

City and County of New York, ss.

Charles Cooper, of 289 Pearl-street, of the City of New York, being duly sworn, deposeth and saith, that he is the brother of David Cooper, who died at his house on Sunday morning last, about 3 o'clock.

And this deponent further saith, that this deponent and the said David Cooper owned the sloop Accommodation, which vessel they used as a lighter. And this deponent further saith, that on Thursday the 24th day of August last, the said David and deponent, with the said sloop Accommodation, were engaged in lightering beef and pork in barrels from the ship Charles of Portsmouth, New Hampshire, from New Orleans, from the dock of Mr. Tooms, at Brooklyn, to the packing yard of Mr. John Lewis, between King and Spring streets, in the City of New York, on the North River. Deponent continued along side of said ship on Friday, but his brother on that day was engaged in lightering grain from a schooner from North Carolina, which was at Coenties-slip, in the City of New York, to Jersey City. He had a small scow schooner, the Lucy Jane.

And this deponent further saith, that on Sunday the 27th of August, the said David was on board said sloop Accommodation. On Monday, the 28th of August, they, that is, deponent, his brother David, the boy Michael, James Creegy, a carpenter, and John Faileuson, took the sloop around to the said packing yard, and discharged the load. They then took the sloop up to the ways at Sixteenth street, belonging to Mr. Burtess, near the Gas Works. On Tuesday the 29th, about eleven o'clock, they got her on the ways. They all, viz., deponent, brother David, the hoy Michael, James Creegy, John Faileuson, and George Dutton, worked at her. They were all more or less in the water performing the work. On Tuesday night they all worked as late as they could see. When they left work, the boy Michael and James Creegy went on board, the other went home, deponent and John Faileuson rode down, and his brother walked down to 289 Pearl-street. After supper brother walked up; he came down to see a young lady.

On Wednesday morning, when deponent got to the sloop, about half past six o'clock, he found his brother lying in the bed cabin; said he felt sore and weak, so that he could not get up. About half past ten or eleven o'clock, he came down the side of the vessel and said he would go home. He then took my little boy with him and said he was going to ride home. When deponent came home at night, found him on the bed sick. On Thursday morning, left him sick and went back to his work. When deponent got to the sloop on Thursday morning, he found Michael sick, making the same complaints as his brother did the morning before, and found him in the same bed his brother had occupied the morning before. About half past eleven o'clock on Thursday morning, the boy Michael came out of the vessel and went to ride home; he lived with deponent's brother, William Cooper, at 98 Roosevelt-street, since which deponent hath not seen Michael.

When deponent came home on Thursday night, found brother worse. On Friday morning his brother sent for deponent and stated he wished to go in the yard. Deponent assisted him; he was very weak; when he came from the yard, he laid on deponent's bed down stairs; he went up stairs at night; was assisted down again in the morning, Saturday, and remained and died there on Sunday morning at three o'clock.

The first of his complaining was weakness, pain in his back, head-ache, soreness in his bones; when he died he vomited very heavy, which was very black, like coffee grounds. Should think he threw up from a pint to a pint and a half. His eyes were bloodshot; he looked natural before death; he was taken from the house about 11 o'clock, and had then changed to a deep yellow color. The material which he vomited stained like ink. When they were engaged clearing the vessel, the water and atmosphere around her was very offensive from the effects of the Gas House. Both the carpenters, George Dutton and James Creegy, have been complaining since. Creegy has complained of a head-ache and pain in his stomach. Dutton said to-day he had been in the house all day Sunday and to-day; he said he did not feel like work. Michael complained just as David did. Dutton and Creegy were not at the ship Charles.

Faileuson has since been steady by the sloop painting her; Charles Cooper has been about her. No one slept on board of her since. Dutton never slept on board of her. Creegy is now at 98 Roosevelt-street, and Dutton is corner of Water and Governeur Market—he keeps house there.

Doctor Conway attended to both these cases. All of them got their dinners on board.

Mayor's Office, September 5th, 1843.

But we have also the testimony of a medical man in reference to these two cases, Cooper and Creegy, as well as to others connected with them. We are indebted to Dr. E. Conway for the following note in reply to certain interrogatories made by ourselves:

Aug. 29th, I was called to see a young lad, named McGee, boarding at 98 Roosevelt-street. His symptoms were those of strongly marked remittent fever. There was another person, James Creegy, sick in the same house, whose symptoms were very similar, but of a milder form, yielding readily to treatment. I mention these cases, as well as a third in an individual named George ——, who, however, was not seen by me, as being all connected with the fatal case (Cooper), referred to by Dr. Vaché. These four men, engaged in loading and discharging vessels in the harbor, were at this time employed in scraping the bottom of a vessel, at the foot of 16th or 17th street, on the North River, near the Manhattan Gas Works; to the bad smell of which they attributed their sickness. All sickened at the same time, but Cooper alone died; the next severest case being that of McGee, who was sent to the Hospital.

Sept. 1st, I first saw Cooper, who boarded with his brother at 269 Pearl-street. His habits were temperate, and he enjoyed previous good health. When I first saw Cooper he had been sick three days. I found him complaining of intense pain in the eye-balls and forehead, having a small, feeble pulse, cold, clammy skin, face and neck flushed, eyes red and glassy, pain at the præcordia, with a tendency to vomit, tongue coated but not furred, urine scant, and great thirst. Ordered calomel, grs. xv., with soda powders for drink, and mustard to the epigastrium. Next morning I found him with eyes and skin of face and neck of a deep yellow hue. The medicine had acted once or twice, but not well. I did not see him again that day, as his friends proposed sending him to the Hospital. I was sent for that night at twelve o'clock, but could not go until eight o'clock next morning, when I found him dead. Upon inquiry, I was told that he had become delirious during the night, and died at three o'clock; but previous to this, he had vomited about a pint of black ropy liquid, which left a dark stain upon the sheet, even, as I saw myself, after being soaked in water.

The last of this group of five cases was reported by Dr. D. Atkins, to the Resident Physician, who made the following note of the case:

Dr. Atkins reports that a boy, named Condry, was attacked on board of the ship Delia Walker, lying at a pier, east of Coenties-slip, last from Liverpool. He was attacked with an apparently mild form of fever on Friday, (Sept. 1); he continued in this state until about twelve hours before he died, when he was attacked with violent delirium, petechiæ, black vomit, suppression of urine, etc. He was removed from the vessel on Saturday morning to a private house, No. 13 Broadway, where he died on Tuesday, the 5th. His body was removed and interred in a private vault, in the Methodist burying ground, 19th-street. He was a son of the owner of the ship, and he had been sleeping on board for three weeks.

The following note in reference to the same case is by his Honor the Mayor:

Dr. F. U. Johnson, who was sent for by me, stated that he was called in consultation in the above case. He informs me that he does *not* consider it to have been a case of yellow fever. He deems it to have been a case of bilious remitting fever, such as is usual at this season in New York.

Here then, are five cases, two of them fatal, in the city of New York, constituting apparently a group belonging to *Coenties-slip*. But as this is a point upon which our evidence is not wholly conclusive, we can perhaps do no more than approximate the truth. The four cases mentioned by Dr. Conway, it would appear, according to the affidavit of Cooper, had their origin in one of the following sources: 1. The ship Charles from New Orleans; 2. The vessel from North Carolina which they were engaged in lightering in Coenties-slip; 3. Their own sloop, Accommodation, whose bottom they were scraping at Sixteenth-street; 4. It was endemic either to the locality of the gas works, or to that of Coenties-slip.

Now, as the ship Charles arrived here from New Orleans on the third of August, twenty-eight days' passage, the port healthy, and all persons on board (sixteen) well, no infection can be ascribed to her. The same may be said of the other vessels. But as regards the several localities, the cases would seem, for two reasons, to be *endemic* to that of Coenties-slip. The first reason is, that this slip is near Coffee-house-slip, where five cases, it will be seen, subsequently also occurred; and the second is, that the case reported by Dr. Atkins occurred in this slip, and on board of a ship last from Liverpool, which cannot be well supposed to have introduced the disease. Moreover, Cooper swears that "Dutton and Creegy were not at the ship Charles," and yet both these men complained similarly, the latter having, according to Dr. Conway, a mild form of remittent fever.

Cases VIII., IX., X., XI., XII.—All these cases have manifestly some connection with *Coffee-house-slip*, in New York. Three of them were from the schooner Juliet, and one from the schooner Bergen, both from Petersburgh, Virginia, and the remaining one, which proved fatal, was the mate of the schooner Ann, from Baltimore. The following letter, in reference to the last case, is from J. T. Harrison, M. D., whose opinion upon this subject is entitled to much consideration, in consequence of having been in former years the Health Officer of this port:

Staten Island, September 17th, 1843.

Sir,—I was requested yesterday at 12 o'clock, to visit with Dr. Clark, of Port Richmond, Mr. Peter Latourette, a patient of his, lying ill at Bergen Point, on the opposite shore of the Kills from this place, in New Jersey. I found him in the last stage of a fever of a very suspicious character, exhibiting, as it assuredly does, many, if not all the symptoms of *yellow fever.*

I learned that Mr. Latourette had become indisposed on the preceding Sunday, the 10th inst., but not so seriously as to require a physician until Tuesday the 12th, when Dr. Clark was called to see him. Nothing appeared in his case to excite surprise until Friday. Without going into any minute detail of symptoms, it is sufficient for me to say, that the case is accompanied with all the indications of malignancy, in the smoky yellow eye and skin, mahogany cheek, hæmorrhage, and dark colored discharges from the stomach and bowels, which I have so often witnessed in former years at the Marine Hospital, when under my charge. As the case seems to have originated in the city, and under circumstances calculated to excite attention at this season of the year, it is proper for me further to state, that Mr. Latourette is mate of the schooner Ann, of New York, Captain D. Latourette master, now lying at Coffee-house-slip, where she arrived about the 4th or 5th instant, from Baltimore, and that she is a new vessel, this being her first voyage to any port. Mr. Latourette remained on board until the Saturday preceding his sickness on Sunday—say about one week. He on that day visited the schooner Bergen, lying near him in the same slip, the mate of which vessel was then sick with a disease similar to that which Mr. Latourette has since been affected with. The mate of this vessel (a Mr. Swain) has since been removed to this island, and is now said to be on the recovery.

I communicate these facts, sir, not from a wish to produce alarm, but only for your private information, as President of the Board of Health, in order that as the disease in question seems to have had its origin at Coffee-house-slip, if other cases of a similar character should occur in that vicinity, your attention may in time be directed to the spot, and such precautions taken to prevent its extension, as you may deem necessary.

With great respect, I am sir, your obedient servant,

J. T. Harrison.

Hon. R. H. Morris, President of the
Board of Health, New York.

N. B. Mr. Latourette died last night at nine o'clock. As Mr. L. appears to have been taken sick within six or eight days after his arrival from Baltimore, his disease may have been contracted at that port, as there is so much intercourse between that place and the West Indies, and perhaps much laxity in the execution of the quarantine laws.

Dr. Harrison here very prudently reports his case for the private information of the Mayor, so that, in the event of the occurrence of other cases of a similar character in that vicinity, his attention might in time be directed to the spot; and this contingency was actually realized, for, besides a Mr. Swain, referred to in Dr. Harrison's letter, three other cases were soon reported to the Mayor from Coffee-house-slip.

As regards the case of this Mr. Swain, who recovered from his disease, the following extracts from the letter of Dr. D. A. Edgar, furnish full information:

> On Saturday, the 9th instant, I was sent for to see young Mr. Swain, but not returning home till late in the evening, I deferred my visit till Sunday morning 10th. I then found my patient with the following symptoms: slight pain in the head, more severe in back and extremities, tendency to perspiration, pulse rather small, beating from eighty to eighty-five in a minute, considerable irritability of the stomach, tongue covered with a thick yellowish fur, mouth moist, slight thirst that was easily allayed by taking drink. As I did not consider his symptoms alarming, and as I wished the irritability of his stomach to become somewhat allayed before I gave him medicine, I gave some general directions for his management during the day, and I left a dose of calomel to be taken at night at bed time, to be followed with salts and senna in the morning.
>
> Monday 11th. Very little alteration in the symptoms; for although in the evening there was an increase of pain in his head, and other febrile symptoms, I found him this morning quite comfortable. He took the calomel as directed, and also the salts and senna. The calomel caused him to vomit once or twice during the night, and the salts and senna were rejected. Just before I entered this morning, *he vomited a small quantity of dark green matter, with little black flocculi floating in it;* and I must confess to you that I felt a momentary alarm for my patient's safety; but when I turned from the basin to the examination of his symptoms, I prognosticated what the result has proved to be correct, that my patient would have a mild attack. The calomel moved his bowels two or three times gently, and as his stomach continued to be irritable, I directed the free use of mustard plasters.
>
> Tuesday 12th. A slight change for the better. Last night about seven o'clock his mother perceived a little coldness of the feet; and for three or four hours, he was restless with hot skin, pain in his head, &c., but the latter part of the night he slept well, and expressed himself more refreshed this morning. His tongue still continued furred, or this morning I should have considered him in a proper state for quinine.
>
> Wednesday 13th. Patient passed a very comfortable night, and is decidedly better.
>
> Thursday 14th. Another good night—doing well.
>
> Friday 15th. Convalesence decidedly established. On the morning of my first visit my patient gave me this account of himself: that, during the week preceding, he had worked very hard unloading his vessel; that on Thursday of that week, he worked unusually hard, retired to his berth in the evening very tired, and neglected to draw his curtains; that on Friday morning he awoke with pain in his head, back, and bones, and with sickness of his stomach; that on Friday morning he took a dose of salts, and feeling no better on Saturday he concluded to come home.

In this case, the only striking feature is, the vomiting of dark green matter, having suspended in it black flocculi.

The three other cases from Coffee-house-slip, all having the same general features, occurred on board the schooner Juliet, from Petersburgh, Virginia. Two of these, we saw at the Marine Hospital, at the Quarantine.

Now, the question here arises: Did these five individuals, arriving at Coffee-house-slip in three vessels having no relation to one another, and sailing from two distinct and healthy ports, Baltimore and Petersburgh, bring with them the seeds of their diseases? Or, on the other hand—Were these five cases of fever endemic to Coffee-house-slip? Upon the doctrine of probabilities, keeping in view the five cases occurring at the adjoining slip, we must necessarily draw the latter conclusion.

That these five cases of disease, as well as the five at Coenties-slip, and the two at Yonkers, are *indigenous*, all evidence goes to prove. No one of course pretends that they had had any connection with the Vanda, or the locality of Rondout; nor is there any evidence otherwise to prove a foreign source in these ten cases, not to speak of the two at Yonkers. Dr. Conway, who witnessed the yellow fever epidemics of 1819 and 1822, told us that he could not distinguish Cooper's case from those then regarded as genuine yellow fever; but this remark, he said, did not by any means necessarily imply with him a foreign origin. If Cooper's case was *imported* yellow fever, then the same cause, it may be inferred, produced in his comrades mild remittents. As the period of sickness in these four fatal cases, Kerr, Latourette, Cooper, and Condray, as well as two in the New York Hospital to be yet described, was in every one five or six days, there is in this respect, as well as in some others, a marked analogy with the fatal cases at Rondout.

There occurred another group of cases in the city of Brooklyn, as we learned from Stephen R. Harris, M. D., Health Commissioner; but as our efforts to obtain the facts have not been crowned with any success, we are unable to illustrate the subject farther by means of these cases.

Case XIII. and XIV.—For these two cases in the New York Hospital, we are indebted to the House Physician, Dr. William W. Jones.

Thomas Wood, England, gardener, was admitted Sept. 17. About six weeks ago, after exposure, he complained of chills, pain in back, and other febrile symptoms; but from this he recovered and continued pretty well, until four days ago, when he spent the evening in the bar-room of French's Hotel, Catharine-slip. Here he drank some beer, and retired to bed at ten o'clock. An hour after, he was seized with headache, griping pains in the abdomen, and vomiting, the skin assuming a yellowish hue. A physician was called in, who administered some powders, which purged him freely. A blister was also applied over the abdomen. On the evening of the 16th, he vomited a dark brown matter; and during that night and since, he has passed his urine and fæces involuntarily. At visit on Sunday morning, his skin was cool and moist, pulse about 85 and feeble, perfectly rational; complained of pain in his head; there still remained some tenderness of abdomen, and his tongue was covered with a slight yellowish coat, disposed to be dry. On admission in the afternoon, his skin was hot, pulse full and of good strength, tongue pale and moist, considerable diarrhœa of bilious stools, eyes somewhat yellow; he spoke but once after admission, and would not protrude his tongue.

18th. Is able to swallow liquids only, skin dingy yellow, conjunctiva of a yellowish hue, pulse 140, soft and compressible, feet somewhat œdematous, tongue pale, clean, and rather dry, passes his urine and fæces involuntarily; passed a restless night, diarrhœa continuing through the night, abdomen free from tympanitis and tenderness; was put upon pulv. Doveri and sulph. quinine grs. iv., every two hours; cold to head. Died at 10 P. M.

Post-Mortem, thirteen hours after death. Body not emaciated; in the brain, in addition to some congestion of the posterior part, there was slight effusion of serous fluid into the cells of the arachnoid; chest—lungs post mortem congestion of posterior and inferior part; heart, rather flabby; abdomen—liver of rather a dark brownish red color, the biliary ducts full of bile, a healthy appearance; the gall bladder also distended with the same; spleen not much enlarged, but the tissue softened; stomach perfectly natural, mucous membrane pale, not thickened, or altered in any way; at the upper part of the ilium, the lining membrane was red, apparently inflamed; some enlargement, but no ulceration of Peyer's plates; other portions of intestinal canal, healthy.

John Smith, American seaman, aged 25, was admitted September 12th, into the 9th ward of the Marine Hospital. He is a stout, well-built man, and has been principally employed on board of vessels in the coasting trade. Three weeks since he arrived from Boston, and during this time he has complained occasionally; but he was able to be about until three days since, when he was laid up with a chill followed by fever, &c.

When admitted, there was much muscular debility. He appeared tolerably rational, though slow aud unwilling to answer, so that from him but little could be learnt concerning the origin and course of his disease. His conjunctivæ were red and injected, and his skin of a yellow color, hot and dry; pulse apparently natural both in force and frequency; tongue moist, with a thick fur; thirst; complete loss of appetite. He had vomited before he came to the house. The case altogether had very much the appearance of one affected with a severe gastro-hepatic derangement. A mild emetic was prescribed.

Sept. 13th. During the night he was very restless, and at times delirious. His bowels have been freely opened twice, the stools being perfectly natural both in color and consistence. His urine is of a very deep orange yellow color, and the skin of the thigh is stained by it, as if pure bile had been applied to the part. The skin is more yellow, not so warm, the extremities rather cool. Tongue less furred, but still moist. Some tenderness of the epigastrium when pressed. Pulse is soft but not frequent. Debility increased.

Sept. 14th. He continued during the day, yesterday, in pretty much the same condition. He has been taking wine, but this has been administered with great difficulty, owing to the patient's clenching his teeth. He died early this morning, without the occurrence of any new symptoms, except that he became comatose toward the last. He died without any vomiting.

Necropsy six hours after death.—The body was but little, if at all, emaciated, the limbs rigid, though not very cold. The skin and conjunctiva of a bright lemon yellow color, and this tint pervaded most of the other tissues examined.

Some congestion of the vessels of the pia mater, with slight effusion of serum into the cells. The substance of the brain tolerably firm, presenting no abnormal appearances.

Nothing peculiar was found in the lungs or heart. The larger vessels contained considerable watery blood.

The liver was in general of an orange yellow color, and rather dry when cut, here and there somewhat rosy from minute vascular iujection; gall bladder empty, contracted. The spleen was very little enlarged or softened.

The stomach contained about two ounces of a brownish-black matter, consisting of small distinct flocculi, mixed with the thick ropy mucus which covered the lining membrane. This last was throughout thicker than natural, slightly reddened, tearing easily when raised by means of the forceps. Near the pylorus it was mamelorated. The blackish matter mixed with mucous was found in small quantity throughout the whole of the small intestine. The aggregated glands were not at all enlarged, but a few of the patches on the inferior portions of the ileum were rather red; and a few of the solitary glands increased in size.

There is nothing in the history of these two cases, by which we are enabled to trace them to a particular locality. The latter has some strongly marked features approaching yellow fever; but no one among the experienced physicians of the New York Hospital, ventured to call it by that name. Both died about the sixth day, in which circumstance, as well as in others, they resemble all the other fatal cases, inclusive of those at Rondout. In the absence of any knowledge to the contrary, we will place them in the category of the rest—the *indigenous* class.

We are indebted for the following description of a case of "*Southern Bilious* Fever," occurring in Pearl-street, to Dr. E. Wood of this city :

The patient, a Mr. J. C. C., was mate of the brig Philura, which vessel he left at Savannah, to take passage home in the brig Exact, in consequence, as he alleged, of being sick; and he stated to his family that a physician whom he had consulted in Savannah, told him that he had, or was sickening with, yellow fever. Whether this is true or not, is more than I know. At my first visit he expressed his decided conviction that he was laboring under the yellow fever, and he reiterated it repeatedly during his sickness. Since his death a shipmate of his, name unknown, stated to his family that a hand and two passengers had died of yellow fever at the City Hospital, from on board the same vessel. Of these matters I have no personal knowledge.*

Mr. C., a stout, able-bodied man, arrived here from Savannah, in the Exact, about the 18th or 19th of September, after a passage of seven days. I saw him on the day of his arrival, when he complained of the ordinary symptoms of fever, as pain in the head, back, and limbs, heat of skin, thirst, vascular excitement, brown furred tongue, severe gastric irritation, bilious dejections, vomiting, and a deep yellow tinge of the skin and eyes. This last peculiarity, in connection with the severity of the general symptoms, left no doubt on my mind as to the nature of the case. I had before seen cases of similar character, which are of frequent occurrence here, in the fall, among persons arriving from southern ports; and it is known as southern bilious fever.

The evacuations, though decidedly dark, were not remarkably so. In the vomiting there was at times a sediment, apparently mucus, of a dark bilious hue, but nothing resembling coffee grounds or black vomit. In the commencement, the disease seemed amenable to medicine, and the violence of the symptoms very considerably abated. But on the third or fourth day he had bloody stools, (which were soon checked and did not return,) with renewal of the vomiting in small quantities, (not peculiar in character.) The vomiting continued throughout the disease, rendering it difficult to retain anything on the stomach except water in a small quantity. During the exacerbation of the fever, especially toward the termination of the case, he could not swallow, nor could he speak so as to be understood, though apparently understanding the question addressed. During this stage, he would be perfectly helpless and pass his evacuations involuntarily; and yet, with the morning remission, he would rally again, help himself out of bed, take some little nourishment, and give some hope of recovery. With the next accession of the fever, however, he would be sure to be again prostrated. The disease alternated in this way for the last two or three days; and, on the evening of the 26th of September, he expired. Decomposition was extremely rapid, and the effluvia on the following morning were insupportable.

Cases precisely similar to this, we occasionally saw in Florida, during a service of nearly two years in the campaigns against the Seminoles. During the summer of 1836, the 4th Infantry stationed on the Suwanee river, suffered much from this form of remittent fever, characterized by yellowness of the skin and of the tunica conjunctiva, and by gastric irritability, and the vomiting of a fluid of a dark and greenish hue, sometimes containing flocculi.

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* Two were admitted into Hospital from the brig Exact, and both were discharged cured. There was great yellowness of skin in each case.—Editor.

We have thus brought to a close our investigations upon this highly important subject, involving many of the fundamental principles of medical philosophy. As regards the question here at issue, we have avoided the narrow and contracted mode of inquiry, which limits our researches to the mere symptoms of the disease; and we have consequently endeavored to put the question upon the broad basis of those great laws in medicine, which time and experience have determined. It would, indeed, be difficult to find any question in medicine more objectionable to the mode of investigating it upon the exclusive ground of the symptoms of the disease, than this one; for, it is extremely difficult, in many cases, as before remarked, to decide whether a disease is yellow fever, or a malignant grade of the remittent form. In these latitudes, even when we really have a group of symptoms that would authorise us, nosologically, to pronounce the case one of yellow fever, a new question often arises,—Is the disease *endemic*, or is it of *foreign origin?* It has consequently been our earnest endeavor, throughout this inquiry, to determine rather whether the disease was foreign or indigenous, than whether merely the symptoms would justify the designation of yellow fever; and hence we have rigidly tested our deductions drawn from the symptoms of the disease, by those general laws of epidemics that medical science acknowledges. Under this view of the question before us, leaving every reader, at the same time, to draw his own conclusions, we think that the facts and arguments of this paper clearly establish the following

COROLLARIES:

1. The febrile disease prevailing at Rondout during the presence, and after the departure, of the schooner Vanda, existed there for weeks before her arrival, characterized by the peculiar symptoms of yellow suffusion of the skin and eye, preternatural slowness of the pulse, the vomiting of a dark greenish fluid with flocculi floating in it, and by great prostration of the vital powers.

2. It is proved statistically, in the way of *negative* evidence, that the Vanda had no agency in the production of the so-called Rondout fever; but as regards this point, the *onus probandi* lies on the affirmative side of the question.

3. It is proved by the private communications made to the Mayor and the Resident Physician of the city of New York, that a disease having features analogous to those above described, occurred during the same period in various localities; thus showing that the fever at Rondout was but the manifestation of a widely extended cause, constituting an epidemic.

4. The disease was consequently *indigenous* and *non-contagious;* and viewing its whole character, as evinced both by its history in connection with the philosophy of epidemics, and by its peculiar symptoms, the opinion would seem to be clearly warranted, that it is a MALIGNANT REMITTENT FEVER WITH A STRONG TENDENCY TO ASSUME THE TYPHOID TYPE.

Art. II.—*Classification of Sulphurous Waters, with an analysis of those of Avon, Livingston County, and Sharon, Schoharie County, New York.*—By Samuel Salisbury, Jr., M. D.

The ingredients which a mineral water contains, as foreign to pure water, will, in every case, be found to be such as serve to explain its curative effects in disease. There is no need of resorting to hypothesis or fancy; for, as is the case with all medicinal compounds, the medicinal character of a mineral water must depend on the properties of its constituents. All other modes of appreciating the virtues of mineral waters, and of establishing the proper indications for their use, must necessarily be imperfect. It will not be denied, however, that a successful empiricism and a comparison with other waters, the effects of which are known, and which are supposed to be similar, will serve to suggest some diseases and symptoms of disease which may be remedied by their use.

Sulphurous waters have been found in many parts of the United States, some of which possess valuable medicinal properties. The appellation *sulphurous*, has been given to those waters which contain sulphur united either with hydrogen, or with a salifiable base. Sulphur and hydrogen, when uncombined, produce a comparatively slight effect on the human system. Sulphur has been used as a purgative by physicians, in doses of from one to three drachms. Hydrogen, although not adapted to the long-continued support of animal life, may be respired, in large quantity, with perfect impunity. One hundred cubic inches of sulphuretted hydrogen contain only thirty grains of sulphur. Dupuytren and Thenard made some experiments in order to ascertain its action on the animal economy, and found that the presence of 1-1500th of it in air was instantly fatal to a small bird; 1-800th killed a dog, and 1-250th a horse.

The chemical constitution of sulphurous waters is very various; but it is believed that they all contain sulphuretted hydrogen either in a free state, or in combination. Their classification by European writers has been wholly founded on the difference in the mode of existence of the sulphurous ingredients. They are generally divided into *three* orders. The *first* includes all those sulphurous waters which contain free and uncombined sulphuretted hydrogen, (or hydro-sulphuric acid, as it is sometimes called,) without any excess of sulphur; that is, no more sulphur than is found combined with hydrogen in the form of an acid-gas, or with oxygen, forming sulphuric acid, which is one of the constituents of those salts called sulphates, with which these waters are often impregnated. This is evinced by the fact of their disengaging sulphuretted hydrogen by the action of acids, without precipitating sulphur. As there appears to be a want of accurate information in regard to the composition of many of our mineral waters, an analysis of several of this class is subjoined:

White Sulphur Springs, Virginia.

By Wm. B. Rogers.

In a wine gallon, gaseous contents—

Sulphuretted hydrogen,	2.50	cubic inches.
Carbonic acid,	2.	"

Oxygen,	1.448	cubic inches.
Nitrogen,	3.552	"

Solid contents—

Sulphate of magnesia,	44.70	grains.
Sulphate of lime,	61.95	"
Carbonate of lime,	9.20	"
Muriate of lime,	1.63	"
Chloride of sodium,	1.44	"
Oxide of iron, a trace.		
Loss,	3.28	"
Total	122.20	grains.

2.—*Lower Spring, Avon, Livingston County, N. Y.*

In a wine gallon, gaseous contents—

Sulphuretted hydrogen,	10.02	cubic inches.
Nitrogen,	5.42	"
Oxygen,	.56	"

Solid contents—

Sulphate of magnesia,	49.61	grains.
Sulphate of lime,	57.44	"
Sulphate of soda,	13.73	"
Carbonate of lime,	29.33	"
Chloride of calcium,	8.41	"
Total,	158.52	grains.

3.—*Upper Spring, Avon, Livingston County, N. Y.*

By James Hadley, M. D.

In a wine gallon, gaseous contents—

Sulphuretted hydrogen,	12.	cubic inches
Carbonic acid,	5.6	"

Solid contents—

Sulphate of magnesia,	10.	grains.
Sulphate of lime,	84.	"
Sulphate of soda,	16.	"
Carbonate of lime,	8.	"
Muriate of soda,	18.4	"
Total,	136.4	grains.

4.—*New Bath Spring, Avon, N. Y.*

By Lewis C. Beck, M. D.

In a wine gallon, gaseous contents—

Sulphuretted hydrogen,	31.28	cubic inches.

Solid contents—

Sulphate of magnesia,	8.08	grains.
Sulphate of lime,	3.52	"
Sulphate of soda,	38.72	"
Chloride of sodium,	5.68	"
Carbonate of lime,	26.96	"
Total,	82.96	grains.

5.—*Sylvan or Iodine Spring, Avon, N. Y.*

By James R. Chilton, M. D.

In a wine gallon, gaseous contents—

Sulphuretted hydrogen,	20.68	cubic inches.
Carbonic acid,	4.99	"

Solid contents—

Sulphate of magnesia,	12.96	grains.
Sulphate of lime,	80.42	"
Chloride of sodium,	97.44	"
Chloride of magnesium,	62.40	"
Carbonate of lime,	26.80	"
Carbonate of magnesia,	15.97	"
Vegetable matter,	.24	"
Iodide of sodium,*		
Total,	296,23	grains.

6.—*Sharon Springs, Schoharie County, N. Y.*

By James R. Chilton, M. D.

In a wine gallon, gaseous contents—

Sulphuretted hydrogen,	.16	cubic inches.

Solid contents—

Sulphate of magnesia,	42.40	grains.
Sulphate of lime,	111.62	"
Chloride of sodium,	2.24	"
Chloride of magnesium,	2.40	"
Hydro-sulphuret of sodium, Hydro-sulphuret of calcium, Vegetable matter,	2.28	"
Total,	160.94	grains.

To this order belong most of the Sulphur Springs in this country, which have been made the subject of analysis. Their effect upon the human system finds an explanation in the known action of sulphuretted hydrogen on the mucous membranes, aided, as it is, by the saline purgatives and diuretics which they contain. Their purgative operation is probably not increased, and in some states of the alimentary canal, is diminished by the sulphuretted hydrogen. This is shown by the fact, that the Avon water, when deprived of a portion of its gaseous contents by boiling, is commonly rendered a more brisk, though a less thorough and efficient purgative; and this conclusion is further established by the well-attested observation in regard to the White Sulphur water, viz., that although it contains less sulphuretted hydrogen and a smaller amount of active saline materials than the Avon, yet it operates as a purgative much sooner, with perhaps, however, a less extended and general influence. The action of the former, like that of the neutral salts, is supposed to be upon the stomach and small intestines more especially, while the large intestines and all the mucous membranes receive a powerful excitation from the latter, unattended, sometimes, with an immediate purgative operation.

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* The quantity of iodide of sodium was not ascertained, as the little water sent was used in making the remainder of the analysis.

The *second* order of sulphurous waters comprises those in which the sulphuretted hydrogen is only found in combination, forming with bases existing in the waters, what are called hydrosulphurets. These contain no free hydrosulphuric acid, (sulphuretted hydrogen,) and no excess of sulphur. As an example of this order, the analysis of the waters of Barreges, in the Upper Pyrenees in France, made by M. Longchamps, shows that they contain carbonate of soda, hydrosulphuret of soda, subcarbonates of lime and magnesia, silex, azote, but no free sulphuretted hydrogen. (See Manual of Materia Medica by Edwards and Vavasseur.) European waters of the *first* order are considered doubtful remedies in pulmonary cases, and great caution is thought requisite in their use; whereas those of Barreges and of the Oriental Pyrenees, such as Escaldas, Vernet, and Arles, belonging to the *second* order, are viewed as peculiarly applicable to such cases, and have, for a long period, sustained a high reputation for their cure. This fact may be of much practical importance, and should lead to a thorough examination of those of the United States, the odour of which does not indicate the presence of a large quantity of sulphuretted hydrogen. From a recent analysis by Dr. James R. Chilton, the water of a sulphur spring at Sharon is found to contain hydrosulphurets; in consequence of the large quantity of free sulphuretted hydrogen which it also contains, it belongs to the *first* order, and may not, therefore, be adapted to pulmonary cases. The Red Sulphur Springs of Virginia contain a sulphurous compound, which Mr. Hayes, their analyst, has not named, but they contain four cubic inches of sulphuretted hydrogen in a wine gallon; they are, therefore, of the *first* order.

The *third* order includes those sulphurous waters which contain an excess of sulphur. Whether this substance supersaturates the *free* or the *combined* sulphuretted hydrogen, or how it exists in the water, I have never seen fully and satisfactorily explained. Those called the Clifton Springs, in the town of Phelps, Ontario county, N. Y., are probably examples of this order; for the stones, leaves, and branches of the trees, over which they pass, are found incrusted with sulphur in a pulverulent form. Immediately after it issues from the earth, this water becomes opaque and of a yellowish colour. At Aix-la-Chapelle, the dome of the vault which encloses the spring which supplies the "Emperor's" bath, is said to be incrusted with a fine, pulverulent, sublimed sulphur. This is opened at times, and the sulphur brushed off, which is sold under the name of "Aix Sulphur." The hydrogen, which flies off in a gaseous form from this water, is supposed to be supersaturated with sulphur; and hence the excess of this substance is deposited very soon after it it becomes aëriform. It is certain that the activity of sulphur waters as therapeutic agents, cannot be very much increased by this excess of sulphur. We should rather infer, that were this substance acidified by union with hydrogen, (of which there appears to be a deficiency,) and sulphuretted hydrogen formed, their effects on the human system would be more potent.

In order to explain with more clearness and precision the distinctive characteristics of the two last orders, Anglada, a French writer on the thermal waters of the Oriental Pyrenees, makes the following illustration: "Sometimes the union of an atom of hydrogen and an atom of sulphur, forms an acid, which, susceptible of the gaseous form, can be separated from its saline combinations without parting with its sulphur;

we then have what are called *hydrosulphurets.* At other times, this compound of an atom of hydrogen and an atom of sulphur acquires, especially when in combination with a base, the property of retaining larger proportions of sulphur, so that when we destroy these combinations by means of a stronger acid, we separate, on the one hand, this excess of sulphur in a concrete form, which is precipitated, and on the other, sulphuretted hydrogen in a gaseous state."

From this view of the chemical constitution of sulphur waters, it appears that they are all mineralized, either by sulphur in combination with hydrogen, or by sulphur in combination with hydrogen and a salifiable base, constituting what is called a hydrosulphuret. An excess of sulphur may exist, as is supposed, either in the sulphuretted hydrogen, or in the hydrosulphurate, forming a third order. The practical application of the foregoing classification to the waters of this country generally, I purpose making the subject of a future contribution to your valuable journal.

ART. III.—*Medical Jurisprudence,—being Notes of a Trial for Mal-Practice.* By CHARLES A. LEE, M. D.

The following documents, which have been placed in my hands, by one of the persons interested in the trial, of which they give a history, appear to me to possess sufficient interest to justify their being laid before the profession. If they do nothing more, they may serve to demonstrate the low condition of Medical Jurisprudence in this country, and the grievous wrongs and injustice which medical men are sometimes obliged to suffer, from the prejudices and ignorance of Judges, Lawyers, and Juries. We here see the testimony of some of the ablest physicians in the State of Connecticut, set aside as worthless, because it happened to interfere with the individual opinion of the presiding Judge, who, however respectable for his legal attainments, it appears but fair to say, laid down a principle as much opposed to the dictates of justice and common sense, as it is to the progress of Medical and Surgical science. Physicians, moreover, are not wholly faultless in this matter. Professional rivalry and the pride of opinion, have too often led them to appear rather as opponents and combatants in our courts of justice, than as impartial witnesses. The consequence has been, that in displaying a want of respect for each other, they have lost that of the court and the bar; and they, therefore, often meet with the utmost discourtesy, if not downright insult at their hands. How often do we see lawyers attempt to browbeat and disconcert physicians when placed upon the stand; and if they think it will contribute to the attainment of their object, they even add insult to rudeness, and thus gain, perhaps, by impudence and bluster, what would be denied to civility and candor. To such an extent has this practice been carried of late, that nothing short of actual imprisonment will induce some of our most respectable physicians to appear as witnesses in any case whatever; and if the profession generally would come to the same determination, we might calculate with considerable certainty, that a beneficial change would be the result.

In the Spring of the year 1829, the authorities of the town of Salisbury, Connecticut, in compliance with a law of the State, employed the physicians resident in the town, to vaccinate such of the inhabitants as had not previously had the Small-pox or Kine-pock; and for this they agreed to pay the sum of *fifty dollars*, to be divided among the physicians, according to the amount of labor respectively performed by each. It fell to the lot of Dr. A. Humphrey to vaccinate in five School Districts; but his health being infirm, he employed a student to perform the duty assigned to him; and for this service, the vaccinator was to receive the sum allowed. We continue the history in the language of the person alluded to, (now Dr. Rollin Sprague,) copied from his affidavit:

Thus situated, I commenced vaccinating, and proceeded to vaccinate most of those who needed it in the five school districts aforesaid. Doctor Humphrey vaccinated a few neighbors, and some who came to his house. I began vaccinating before Doctors Tichnor and Fish, and believe they commenced with virus obtained from my patients. Furthermore, I testify that I vaccinated between one and two hundred persons, according to the best of my recollection, about the time and in the school districts aforesaid; and amongst them Harriet Ann Landon, who was at the house of Mr. Lincoln. I suppose I did it well, as I heard no complaint at the time of performing the vaccination. There were several persons present at the time of vaccinating said Harriet Ann. I made two punctures, because the one first made bled. The virus was put in the other, which I think did not bleed. I observed her arm was engorged with blood, and bled from a very slight scratch. Whether this appearance was natural, or in consequence of the sleeve being tight around it, I cannot tell; but I am confident *both punctures were extremely slight, and that the true skin was not punctured.* The first complaint was made to me six or seven days after the vaccination, and not till the pustule was mature. I lived less than a mile from the said Harriet Ann. Further the deponent saith not.

(signed.) Rollin Sprague.

From the affidavit of Cornelia Lincoln, we learn that she was present and saw Dr. S. vaccinate Miss Landon. She avers:

I saw him lay his lancet flat on her arm, and gently push the lancet into her arm. The arm bled so much that he did not put the matter into that incision; but made another incision in like manner, which did not bleed so much as the first, and in which he inserted a quill containing the vaccine virus. I do not recollect how far the lancet entered into the arm of the said Harriet Ann, at the time of her being vaccinated. I was acquainted with her the summer after she was vaccinated, living near where she did, and I often saw her carrying water from the brook near my father's house, to where she lived, but not with the arm on which the vaccination had been performed.

The first time I heard anything about Harriet Ann Landon's having a lame arm, was at the house of Capt. Evarts, about two miles distant from my father's, although I lived within twenty or thirty rods of the place where she resided. I heard of the lameness of the said Harriet Ann's arm at said Evarts, about one or two weeks after she was vaccinated. And further the deponent saith not.

(Signed) Cornelia Lincoln.

Mary Chittenden certifies as follows:

During the latter part of March, 1829, her niece, Miss Landon, then in the twentieth year of her age, came home and informed her that she had been to Mr. Lincoln's, and had there been vaccinated by Dr. Sprague, for the kine pock, that she complained of pain in the arm running up to the shoulder, immediately after the second puncture, which was on the fore side of the arm. The arm continued painful, but Harriet stated that she did not know but the pain was caused by the doctor's squeezing her arm. She said he pressed it very tight. She went to winding spools on the quill-wheel, but soon left off, saying that her arm still pained her, so that she was not able to work; and after seven or eight days, the redness was as large as the top of a tea-cup, and while the inflammation continued, her arm was contracted close to her side, and her head was drawn close to her shoulder. In twelve or fourteen days, it began to get better; and after several days, her arm and neck relaxed, and returned to their natural state. But after this, she said that it did not get entirely well, but that she felt a constant bad feeling in the place where she was vaccinated; and if she used her arm to do hard work, a pain ran into her shoulder and jaw, and side of her neck and head. At the time the kine-pock was at the worst, she had a stiffness in her jaws, but she said they were never entirely set, and I never discovered them to be set, but only stiff. She did not complain of numbness under two or three days; but the first day she complained of a queer feeling in her hand. I told Dr. Sprague when he came the eighth day after vaccinating Harriet Ann, that I was afraid he had cut a nerve. He said it appeared like it, and it was possible he might, but it was nothing he could calculate for. When she showed me her arm, I saw two small punctures both a little bloody.

(Signed) MARY CHITTENDEN.

It appears from the testimony of other witnesses, (though they conflict somewhat with her own statements,) that these symptoms were merely temporary, and followed by no lameness or other serious inconvenience. The vaccination was skilfully performed, but nearer the elbow-joint than is customary; and the compensation which Dr. Sprague received for vaccinating five school districts, was some twenty dollars, averaging about four cents for each person vaccinated throughout the town. No other complaint was made except in the case of Miss Landon; the operation, in all the other instances, having been attended with perfect success. I shall pass over most of the affidavits which prove that she had the perfect use of her arm after the operation, as there is no testimony which conflicts with this admitted fact. Silas Mead deposes thus on this point:

During the time that Harriet Ann Landon was keeping school in town during 1831, in the summer just before she went to Litchfield at August court, she watched at my (his) house, with my wife, (who was then sick,) at two different times, and stayed at night and took breakfast in the morning. I had heard that she had a lame arm, and as my wife had to be lifted from one side of the bed to the other, I observed to her that I did not know but it might hurt her arm. She replied: "I guess not." She helped move my wife a number of times, and I did not discover but that she rendered as much assistance as any other female; nor did I discover which arm was lame, if either; and at meal time, I took particular notice, whether she favored one arm more than the other, and I could not perceive that she did; and I did not perceive but that she handled her knife and fork as well with one hand as the other.

The case came on for trial before the Superior Court of the State of Connecticut, held at Litchfield on the third Tuesday of August, 1832, Judge Daggett presiding.

During the trial, the following depositions were read:

I, Caleb Tichnor, of Salisbury, of lawful age, do testify and say, that I first saw the arm of Harriet Ann Landon about two years since, and heard the account of the vaccination, and subsequent symptoms, in substance as follows: That the operation was done at a neighbor's house, that the vaccine virus was inserted into a second puncture, because the first bled too much, and that she experienced no pain till some little time after the operation, she could not say how long, perhaps a few minutes, that since then she has felt pain in the arm both above and below the puncture, extending into the neck. She furthermore stated that she had been able most of the time since to do light work, that her arm did not pain her all the time, that she had used but little means to remedy the difficulty, and that when the arm was not painful, *talking* about it or thinking of it brought on the pain, and further, that her general health had been good from the time of the operation, and was so at the present time. Her arm at this time appeared to me perfectly healthy in every respect. I further testify and say, that I saw the arm again in February 1831, and that Miss Landon's statement and the appearance of the arm were the same as when I first saw it.

If the above statements of Miss L. contain the facts regarding pain, the inevitable conclusion must be, that if medical authority can be relied on, and if physiological and pathological facts are good for anything, that a nerve was *not* punctured or otherwise injured in making the incision. In persons of irritable constitution and habit, the symptoms of wounded nerves are frequently simulated in consequence of a very slight injury, such as the prick of a needle or pin, when the puncture does not extend through the skin. From the fact of the pain being induced by "thinking or talking about the arm," and other circumstances, I am compelled to conclude that Miss Landon's constitution is peculiarly irritable, and that slight causes would produce greater effects in her than in most people.

(Signed) CALEB TICHNOR, M. D.

We, the subscribers, of lawful age, do justify and say, by way of question and answer, as follows, viz.:

Questions by Dr. Humphrey. Have you a license to practice physic and surgery, as the law requires?

Ans. We have.

Quest. Have you a degree of Doctor of Medicine?

Ans. (By Drs. L. and C. Tichnor and George F. Hurd.) We have.

Quest. Have you examined the cicatrix or scar on Harriet Ann Landon's arm, where she says she was vaccinated and injured?

Ans. We have.

Quest. Have anatomists taught, or do you believe that there was danger of injuriously wounding the nerves of the skin, or any other nerves by vaccinating in that place?

Ans. Anatomists have not so taught according to our opinion, nor do we believe it.

Quest. Should you have expected that there was any danger of such an injury as that of which the said Harriet Ann, the plaintiff, complains of, in vaccinating a thousand persons at the same place?

Ans. We should not.

Quest. How deep should you think the fatty substance is under the place where the said plaintiff was vaccinated?

Ans. About half an inch.

Quest. Do not anatomists and surgeons generally teach that in cutting there is no danger of wounding nerves, tendons, ligaments, or blood vessels, on any part of the surface covered with adipose membrane (or fat) unless the cut goes through the fatty substance?

Ans. They do.

Quest. Should you think there was any probability from anything you can learn or discover on an examination of the arm, that in performing the said vaccination on said Harriet's arm, that the cut was made one half through the fatty substance?

Ans. No.

Quest. Should you think from the examination of the scar that the cut was through the true skin?

Ans. We should judge not.

Quest. Have you discovered, except from the said Harriet's own account, that there is now, or ever was any disease of her left arm, more than is common in vaccination?

Ans. No.

Quest. Does the said Harriet say there was any unusual swelling of the arm by reason of the aforesaid vaccination?

Ans. She informed us this day there never had been.

Quest. Did not the said Harriet inform you that there was no uncommon pain at the time of the aforesaid vaccination?

Ans. She did.

Quest. Had you seen Dr. Sprague about to perform the aforesaid vaccination, could you have told him it was a dangerous place?

Ans. We could not.

Quest. Should you from examining the arm of said Harriet, judge that there had been any want of skill, or carelessness in vaccinating said arm, or in taking care of said arm while getting well of said vaccination?

Ans. We should judge not.

Questions by the Attorney of the Plaintiff.

Quest. In what place upon the arm does it appear that said Harriet Ann was vaccinated?

Ans. It was a finger's width above the bend of the arm, and three and a half inches in an oblique direction from the point of the elbow when bent at a right angle.

Quest. Is that place the common and usual place of performing the operation of vaccination?

Ans. It is not.

Quest. Can you judge with certainty of the depth of the cut in vaccination from viewing the scar eighteen months after the operation?

Ans. We can with tolerable certainty in this case.

Quest. Can you in common cases of vaccination judge with certainty of the depth of the cut by viewing the scar eighteen months after the operation?

Ans. In cases where the ulceration has been great, we cannot, but in this case we think we can.

Quest. Can you judge of the degree of ulceration by examining the arm eighteen months after vaccination has been performed?

Ans. Generally we can, supposing the operation to be performed with a lancet.

Quest. Does the scar of the said Harriet's arm appear like other scars occasioned by vaccination, where the operation has been properly performed?

Ans. The scar looks very dissimilar to scars where the disease was genuine; yet we discover nothing in the scar that denotes the want of skill in the operation.

Quest. Do you think from the appearance of the scar that the matter inserted took effect?

Ans. We think that it took effect to produce a sore, but not the genuine disease.

Quest. Have you inquired of the said Harriet Ann how many incisions were made before the matter was inserted; if you have, what was her answer?

Ans. She informed us that there were two punctures, one above the other, and that he applied matter to the last; the reason why he made two was, that the first bled too much, and the last bled also.

Quest. Did she tell you that immediately after the incision, she felt a numbness in her hand?

Ans. She said she had no unusual pain immediately, but had numbness in her arm running down to her forefinger; but she afterward had pain.

Quest. Is it necessary in vaccination to make so deep a cut as to draw blood?

Ans. Yes, with dry matter.

Quest., by Dr. Humphrey. Was the place where Harriet Ann aforesaid, was vaccinated a safe place, from wounding the nerves, tendons, and blood vessels?

Ans. We judge it was.

Quest., by the same. Will genuine vaccine matter, skilfully inserted, always produce the genuine disease?

Ans. It will not.

Quest., by the same. From the conversation you had with said Harriet, did you get the idea, that some little time elapsed after the incision before she felt the numbness?

Ans. There was some little time elapsed after the incision before the numbness, according to our impression from her conversation.

Quest., by the same. Were you acquainted with Dr. Rollin Sprague; if so, what is his character as a physician?

Ans. We were acquainted with him when he vaccinated H. A. Landon aforesaid, and as to talent and medical science, he was above the mediocrity of his profession for a man of his age.

Quest., by the attorney of the plaintiff. Is the place where the said Harriet Ann was vaccinated, as proper a place as it would have been had it been further from the elbow joint?

Ans. It is equally safe as it regards the nerves, tendons, and veins, but should an inflammation take place, it would be more inconvenient.

Quest. Have you ever known, in the course of your practice, a person vaccinated in that place or so near the elbow joint before?

Ans. Not that we recollect.

Quest., by Dr. Humphrey. Was not the place where Harriet Ann was vaccinated a more suitable place than on the hand.

Ans. We think it was.

And further the deponents say not.

(Signed,) Curtis F. Hurd,
Luther Tichnor, m. d.
Caleb Tichnor, m. d.
George F. Hurd, m. d.

I, Benajah Tichnor of the U. S. Navy, do testify and say that, having been requested by Dr. A. Humphrey to examine the arm of Harriet Ann Landon, on account of an injury said to have been received from vaccination, and not having been permitted to make the examination, the testimony that is here given, must be conditional and founded upon the testimony of others. And if this testimony in relation to the site of the operation be correct, that is, if the operation was performed at a point three and a half or four inches obliquely upward from the point of the elbow, and one inch from the bend of the arm when bent at a right angle, I have no hesitation in saying that there is no more danger of wounding a nerve at the point which I have designated, by vaccinating in the manner that the operation is usually performed, than there is at the place commonly selected for the operation; for I learn both from dissection and from books of anatomy, that the place selected for the operation in the case of the said Harriet Ann, is not supplied with any branches of nerves which would render any operation there on the integuments dangerous or objectionable on account of wounding a nerve. I furthermore testify and say that, on account of any injury that might result from wounding a nerve, I would as soon introduce a seton or perform any other operation at the point which I have designated as that where the said Harriet Ann was vaccinated, as any other point of the arm. And the deponent further says, that the place designated as that where the said Harriet Ann was vaccinated, is not the place where the operation is usually performed; although there is no place definitely fixed upon for performing the operation. And further the deponent saith not.

(Signed,) Benajah Tichnor, m. d.

A history of the case having been laid before Professor Knight, as above presented, the following question was put:

Quest. Should such a case be presented to you, as above stated, should you infer from those symptoms and circumstances, that a nerve had been wounded?

Ans. The symptoms above enumerated, seem to indicate one of those cases of anomalous nervous affections which occasionally arise in consequence of very slight injuries, most frequently inflicted by small, sharp-pointed instruments, such as pins, needles, &c. I have seen similar cases, in which I did not suppose that any nerve was wounded, except those very minute nervous filaments which belong to the skin, as well as to all the sensitive parts of the body, some of which are, of course, wounded, when a wound is inflicted upon any of these parts. Surgeons, when speaking of a wound of a nerve, as being followed by unpleasant symptoms, do not intend to be understood as referring to these minute filaments, which make a part of the tissue of all sensitive portions of the body; but, of the trunks of nerves of some size, passing through the part wounded, to be distributed to some part, more or less remote. Thus, when speaking of wounds of a nerve at the bend of the elbow, in bleeding, they refer to a branch of a nerve of some size, which, passing through this part, is distributed principally to the hand and fingers. The symptoms above mentioned differ so much from those which are described as belonging to a wound of such a nerve, that I should not consider them to arise from such an injury. When consequences like these follow slight wounds, physicians usually consider them as resulting from some peculiarity of the constitution of the patient, rather than from the nature of the part wounded. Such is my opinion, and I should no more expect that symptoms like those above, would arise from a wound at the place pointed out, than from one made on any other part of the arm.

Quest. Provided there is a good thickness of cellular substance under the point above described, do you know of any anatomical or surgical writings, from which it could be learned, that the place is a dangerous one, on which to vaccinate on account of lasting injury?

Ans. I know of no anatomical or surgical author, who mentions this place as one to be particularly avoided in vaccination.

Quest. Is it not desirable in vaccinating, to avoid all sources that might irritate the pustule?

Ans. It is.

Ques. Is not any suitable place for a sore, a suitable place to vaccinate, and strictly within the surgical chart?

Ans. It is.

Quest. Should you think there was any danger in vaccinating a thousand patients at the above described place?

Ans. The place mentioned above, is not the one usually selected for vaccination; and although the patient might suffer more inconvenience from the inflammation of kine-pock in this place, than in some other parts of the arm, I should not expect any danger or permanent ill consequences, from vaccinating here. Ill consequences may follow slight wounds or inflammation in any part of the body. As to the ratio of danger from vaccinating in this place, I have not the means of judging.

Quest. Should you think that almost any place between the elbow and shoulder, was preferable to the hand for a vaccine pustule on a grown person; and is it not frequently made on the hand?

Ans. To the first part of the question, I answer yes; to the last, I have rarely, if ever, seen any one vaccinated on the hand.

Signed, J. Knight, M. D., and Prof.
New Haven, Aug. 22, 1832.

Dr. Thomas Hubbard, Prof. of Surgery at that time in the Medical Department of Yale College, testified that the symptoms of the case corresponded in great measure with what he had seen in cases known to have originated from puncture through the skin, and from injuries affecting parts deeper than the skin. The depth of the cellular membrane differs very much in different persons and in different parts of the body. I conceive that any wound of the superficial nerves lying beneath the true skin may occasion, in some rare instances, troublesome symptoms. I have known permanent nervous affection and lameness arising from wounds of the nerves, lying between the skin and the veins of the arm, where the cellular membrane must, of course, be very thin. That Harriet Ann Landon had severe pain immediately, or soon after the punctures were made in the arm, I inferred from the testimony of Mary Chittenden, corroborated by said Harriet Ann; and the whole train of symptoms stated to have followed, are such as we might have supposed would probably have taken place from such a cause, modified during the operation of the vaccine disease. The same symptoms, described by surgical writers, to have immediately followed the wounds of nerves, have originated from wounds of large nerves, and do not usually arise from wounds of the superficial nerves, though the latter may be followed by a long train of troublesome symptoms, as I have had occasion to know. Dorsey, in his Surgery, vol. i. p. 96, mentions the consequences of wounds of the nerves. Samuel Cooper, in his Dictionary of Surgery, (article, Bleeding,) makes remarks upon the consequences of wounds of the nerves in bleeding; and in the same article, remarks, on the authority of Mr. Abernethy, that where the nerves are wounded, the parts which they supply, will suffer pain. Mr. Abernethy remarks, as is observed by Mr. Cooper, that if the cutaneous nerve is wounded, the integuments of the forearm suffer pain. If the median nerve is wounded, the thumb and two next fingers suffer pain. There are many other remarks upon this subject, scattered in various surgical and medical periodical works, to which I cannot now refer.

Question by Dr. Humphrey. Do you believe that the opinion which you gave in testimony on the trial between Harriet Ann Landon and myself, that her lameness and pain were produced by a nerve being wounded below the skin, was, in any way, a mistaken opinion; or do you still believe a nerve below the skin must have been wounded?

Ans. I testified in said case,* after an examination of Harriet Ann Landon's arm, and information at the time, derived from Mary Chittenden, principally from my own experience in cases of that description. A question somewhat similar was asked of me in Court, to which I replied, that I had not known such symptoms arise in any case, unless a puncture had been made, extending through the true skin, or, that the parts, deeper than the true skin, had been injured by a contusion or some other cause. I did not state the possibility or impossibility of the production of such symptoms, arising from injury of any nerves, not beneath the true skin, neither can I now do it.

Question by Dr. Humphrey. Had you, at the time of giving your testimony in said case, heard any of the testimony introduced by me in regard to the lameness of said arm, or in regard to the manner of performing the operation? and also what said Harriet Ann had said about the punctures?

Ans. The testimony on the part of the plaintiff in the case, was first introduced, and of course, I testified before Dr. Humphrey's witnesses were examined. I do not, however, now recollect any particular testimony actually contradictory. Negative testimony, as to the lameness of the said Harriet Ann, was indeed, afterwards introduced, by persons, stated to have lived in the neighborhood. One or more of the witnesses, according to my best recollection, stated, that they had not known of her having been lame, or not to that degree that had been previously stated.

Quest. Would you say that you stated your opinion, regarding the injury of the nerve, from an *an ex parte* examination of said arm, and from representations there made, together with the testimony of the plaintiff's witnesses, without having heard the testimony on the part of the defendant?

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* The case was first tried in the County Court, and then carried up to the Superior Court.

Ans. I gave my testimony, principally, before the defendant's witnesses were introduced. I was, however, requested to remain in Court, till the examination of witnesses should have been finished. I recollect having been several times called upon in the course of the trial, and of having answered questions proposed by the counsel on each side, and some questions by Dr. Humphrey. The minute particulars of all these transactions, I cannot now recollect. Further the deponent saith not. Signed. THOMAS HUBBARD, M. D. and Prof.

New Haven, August 22, 1832.

On the part of the defendant, testimony was produced, going to show that similar symptoms often, or occasionally followed vaccination, when performed in the usual place, and that they sometimes result from the most skilful vaccination, when no nerve is punctured.

Among others, the following depositions were offered, to this effect:

I, Olive Selleck, of lawful age, do depose and say, that about six years ago, I was vaccinated for the kine-pock, in the arm, in about the usual place, where I have seen others vaccinated. It was about two-thirds of the distance from the shoulder to the elbow. Immediately after the vaccination, a pain took me in the arm, and run from thence to the shoulder and neck, and continued on the next day and for several days after, and was very severe; and it has been ever since, when I have labored hard, more or less painful; and this pain in the arm did not terminate with the kine-pock, which went through its natural course. The operation was merely a scratch; the blood occasioned by the scratch was hardly perceptible. I am very confident that the pain in my shoulder and neck was occasioned by the vaccination, for it always appeared to be the same kind of pain; the scar occasioned by the vaccination was a very small one. I have not been prevented in consequence of the vaccination from doing my household business, or work, but when I worked hard, it gave me pain, and does to this day. (Signed) OLIVE SELLECK.

L. Perry, of Calebrook, in the County of Litchfield, of lawful age, testifies and says, that more than twenty years ago she was vaccinated for the kine-pock, which operated in the usual manner; and that about the 1st of February last, she vaccinated her own arm with matter taken from her son's arm, who then had the kine-pock; that in about five days the arm began to fester, and in about seven days was considerably swollen, she supposes, in consequence of taking cold. In about nine days the swelling came down, the arm was very painful, her hand and arm became numb to the elbow, and the pain ran into the shoulder and side of the neck, which was severe and occasioned a stiffness of the neck. The place on the arm where the incision was made, was extremely tender, and when touched, or suddenly strained, would cause severe pain. The arm and shoulder continued to be affected for a considerable time, as above stated, and it is yet weak, and the same painful feeling still affects her, to a considerable degree, when the place of incision is touched, or on a sudden strain. For three weeks past her arm appears to be slowly improving, but the darting and twitching pain, as before stated, still, to a considerable degree, continues. The deponent further says, that the sore on the arm healed in a few days, leaving a small scar, but the other painful feelings, as above stated, continued. (Signed) L. PERRY.

Such was the substance of the testimony, offered on both sides, in the course of this trial. Judge Daggett, however, in his charge to the Jury, was understood to lay down the following principle, as governing this, and other analogous cases: *In performing the operation of vaccination or inoculation, the physician is liable for all consequences if he neglects the usual precautions, or fails to insert the virus in that part of the* *arm* USUALLY SELECTED *for the purpose; notwithstanding many other parts of the body might be proven to be equally proper, and even more suitable locations.* He illustrated this principle, by saying that a man would, in like manner, be liable for all consequences, in transporting public or private property, who departed from the usual route, though the one selected, should, on every account, prove to be the best one. This principle, illustrated by numerous examples, and enforced by all the eloquence of the learned and accomplished judge, sufficed to influence the minds of the jury in behalf of the plaintiff; and they accordingly brought in a verdict in her favor for 500 dollars and costs; the total expense amounting to about 1000 dollars. A more unrighteous verdict, I will venture to say, does not disgrace the record of any civil or criminal court, in this, or any other country.

REMARKS.—This case is a highly important one; for if the principle laid down by the Judge, and on which the verdict was given, be correct, and is to regulate similar or analagous cases, in future; then farewell to all improvements in medicine and surgery. If the physician or surgeon is bound to keep the old beaten path, and never deviate from modes of practice laid down by his predecessors, without exposing himself to the danger of being mulcted in heavy damages, where is the chance of improvement and discovery? Had such laws governed the decisions of English Courts, we should never have heard of the splendid surgical achievements of Hunter, Pott, the Coopers, Abernethy, Bell, and Liston. The practical effect of the principle, which decided the above case, is well illustrated by a fact which came to our knowledge during a recent visit to the town in which the physician, who was the defendant, resides. From that time to the present, we were informed, that he had not bled a patient, for fear that inflammation of the vein might follow, or a nerve be injured, or some other injury, real or imaginary, be the result, and thus subject him to another ruinous prosecution. Rather than take such a risk, he chooses to resort to the exclusive administration of internal remedies, even where blood-letting is clearly indicated. If such a principle be adopted, who does not see that the science of medicine must retrograde, and that the people themselves are the only sufferers, as on them rests the responsibility.

There is, moreover, not the slightest probability that a nerve of any consequence was wounded in the vaccination; and the results were no more than is often witnessed where severe inflammation follows from cold, the insertion of spurious matter, idiosyncrasy, &c., &c. The girl was of a highly nervous temperament and vivid imagination, as shown by the fact that when she *thought* of her arm, she always felt more or less pain in it. The evidence is conclusive, that she had the perfect use of it, as soon as the usual inflammation had subsided, and that she was not prevented, after the 12th day, from performing her usual work. On what ground, then, could a jury decide that the Doctor should pay her 500 dollars, and as much more in costs? Merely because the vaccination was performed about an inch below the usual place, and this was done, we are told, because the girl, from real or affected modesty, was unwilling the Doctor should raise her sleeve any higher!

In fine, from this case we learn how grateful the mass are for the gratuitous services of the physician. Here, a female of rather more than ordinary intelligence, is vaccinated free of charge, at an expense to the town of about *four cents!* She is visited frequently afterwards, and the same attention is paid her, as though she had expected to reward the physician liberally for his services; and then the only recompence she makes, is to institute a legal prosecution, and follow it up, until one thousand dollars have been abstracted from the hard-earned fees of the son of Æsculapius!

New York, Sept. 10th, 1843.

Art. IV.—*The Epidemic Influenza, as it prevailed at Binghampton, New York, in the Spring and Summer of* 1843.—By N. S. Davis, M. D.

As facts constitute the basis of all knowledge, and as an almost infinite variety of facts and observations is necessary to elucidate the true causes and pathology of disease, we are induced to contribute our mite towards the investigation of one of the most serious and interesting diseases to which man is exposed, by making the following observations concerning the late epidemic Influenza.

Its first appearance in Binghampton, Broome County, New York, was about the 1st of May, and it continued to increase in extent until the middle of June. From this time, it gradually declined until the 1st of August, when it had apparently disappeared, and the usual bowel complaints of that season had fairly commenced. The prevalence of the epidemic was easily separated into three distinct periods; in each of which the disease presented some peculiar characteristics. In the first period, extending from the first of May to the middle of June, the disease was characterised by the following symptoms, viz: A sense of lassitude, with a dry soreness of the throat or fauces, coming on in the afternoon, and nearly disappearing in the morning, was often felt for some days; and this was suddenly followed by cold chills, severe pain in the head, back, and limbs, with a great sense of tightness across the epigastric region, and a very rapidly developed inflammation of the fauces, often extending to the upper portion of the larynx and the root of the tongue. The inflammation of the throat was accompanied by an erysipelatous redness, and so much swelling as in many cases to render deglutition extremely difficult.

The lymphatic glands of the neck often partook of the inflammation and swelling of the throat; and most of the early cases were accompanied by a bright red rash, which, however, generally disappeared in a very few days. The pulse in most cases was 85 or 90 per minute, full, though not hard; skin hot and dry; tongue covered with a moist yellow fur; thirst very moderate, and sometimes nausea and vomiting. In several of these early attacks, after the inflammation of the throat had continued from three to five days, a fully formed erysipelas appeared, generally on the lips or cheeks, whence it extended more or less rapidly, until it covered the entire face and scalp; and in one fatal case, which, however, I did not see, it was said to have extended, not only over the whole head, but also down the neck, shoulders, and back, as far as the waist. These cases were accompanied by a high fever, a thickly coated, yellow tongue, and much swelling of the inflamed parts. In one severe case, which came under my care, the face was so swollen as entirely to prevent the opening of either eye ; and much *delirium* prevailed for three or four days. It was in this form that the epidemic proved most severe and dangerous. In two or three instances, it proved fatal ; but as neither of these came under my immediate observation, I cannot give them in detail.

The second period to which we have referred, extended from the middle of June to about the middle of July. During this time the disease presented the same general characteristics, but with very little or no inflammation of the throat, and with no erysipelas ; while there was added in their stead, considerable soreness of the lungs, with a very severe harassing cough, and more or less expectoration of, at first, a thick viscid or frothy mucus, which afterward became yellow and sometimes copious. During the third and last period, extending from the middle of July to the first of August, it differed from the second only in the more decided marks of irritation in the mucous membranes of the stomach and bowels, and less in the bronchia and lungs. At the commencement of the attacks during the whole course of the disease, there seemed to be much torpor or inactivity of the liver, as shown by the appearance of less than the usual quantity of bile in the evacuations, and the frequent nausea and sense of tightness and weight across the epigastric and right hypochondriac regions. The duration of the attacks was from three days to three weeks.

Pathology.—To ascertain the nature and true seat of disease is the main point towards which all our investigations should tend. Was the epidemic of the present season inflammatory ? and if so, what were the tissues primarily affected? Most writers, we believe, have regarded the disease as an inflammation, or at least, a high degree of irritation, affecting primarily the mucous membrane lining the respiratory passages, and sometimes extending through the œsophagus and stomach. But our own observations have led us to a somewhat different, and very possibly to an erroneous conclusion. When we remember that bleeding, even in the very commencement of an attack, is badly borne, and that the blood, when drawn, presents little or no inflammatory appearance; and that the pulse is generally neither very full nor hard, nor the thirst urgent, and that those remedies which generally act most directly on the respiratory organs, such as antimony and various kinds of expectorants, have very little influence over the progress of the disease; all this, I say, leads us to doubt the correctness of the above opinions. Indeed, we are inclined to the belief that the cause of the disease, whatever it may be, affects primarily the blood in such a way as to derange the secretions, and especially that from the liver, while the affection of the throat and respiratory organs, is an effect, and not the cause, of the morbid secretions. And hence the disease is primarily functional in its character; and the cause of that functional derangement acting throughout the whole mass of circulating blood, also readily explains the early depression of the nervous or vital energies. That inflammation of the fauces and bronchial tubes is early developed in most cases of the Influenza is very true ; and so has severe erysipelas of the face and scalp accompanied a number of cases, which came under my observation; and the same fact we believe has been noticed in former seasons, when this disease has prevailed. Yet no one has ventured to call either the erysipelas or the exanthematous affection which often accompanies the Influenza, the primary disease. Neither do we believe that the anginosa or bronchial affections, which are by no means present in every case, constitute the primary disease. Indeed, I well recollect one family in which four persons were confined with the epidemic at the same time. The premonitory symptoms in all were the same as we have already described; but, on the second or third day, two of them were found with a fully-formed erysipelas on the face, which spread over the whole head and became quite serious; while the most prominent local affection in the third, was in the respiratory passages; and the fourth had neither erysipelas, eruption, or angina, but labored under an intense pain in the head and back, great tightness across the epigastrium, sometimes nausea, with much derangement of the biliary secretions. Out of 150 or 200 cases of this disease, I have not seen one that was not accompanied by more or less biliary derangement, as manifested both by the symptoms and the character of the evacuations. These facts, together with the effects of certain therapuetic agents, to be referred to hereafter, have led me to that view of the pathology of this disease which has been already indicated.

Causes of the Epidemic of the present season.—As the able editor of the "New York Journal of Medicine" has given in the first number of that excellent periodical, the various theories concerning the origin and causes of epidemic Influenzas, as advocated by different medical writers, we shall at present confine ourselves to two only, and their applicability to the epidemic of the present season. We believe that most professional men who have given attention to this subject, are divided between two theories, the one attributing the origin and prevalence of the disease to a specific virus, capable of wide and exceedingly rapid diffusion by means of atmospheric currents or otherwise; and the other to atmospheric changes alone. The advocates of a specific *virus*, contend that the disease, having occurred in almost every country, and in every variety of season and climate, cannot, therefore, depend upon atmospheric vicissitudes merely. But if we suppose it produced by some peculiar virus, the next inquiry is concerning the nature of such virus, the laws by which it is governed, and the circumstances under which it is generated. It cannot be of the nature of contagion which is generated in a system laboring under its influence, and hence propagated from one individual to another; for, so far as our experience goes, it is strongly against such an idea. We have seen repeatedly one or two in a house attacked with it, while the rest were exempt; and on the other hand, where whole families have been afflicted, the one who had been the least exposed to others was attacked first. And again, it is known to prevail severely in some locations, while in others, only at a few miles distant, it is almost or altogether unknown. But if the supposed virus is not generated in the system while laboring under its influence, it must be owing either to some change in the constitution of the atmosphere itself, or be like marsh miasma, to the combined influences of soil and temperature. Doubtless if the prevalence of this disease during the past season could have been anticipated, and a series of questions addressed to the profession, which should have directed their attention to some of these points, and served as a text or guide to their observations, much valuable information would have been obtained which is now lost merely for want of attention.

Whether the disease is caused by a "*materiel virus*," or by atmospheric changes, one thing, I think, must be conceded, *i. e.*, that the season or *weather*, if we may so speak, has an important influence over its progress and character; and accurate observations would have detected something peculiar in each season of its prevalence. But we must not only make minute observations concerning the temperature, moisture, and electricity of the atmosphere, during the prevalence of the disease, but for some months preceding its appearance. It is doubtless remembered by all, that the winter and spring immediately preceding the appearance of the epidemic of the present season were marked by some things peculiar. Thus, the month of January was remarkably warm, and almost wholly without snow; while the succeeding February and March were directly the reverse; and even up to the first few days of April, the ground was still covered with a heavy coat of snow, and the atmosphere was very cold. From this time to the first of May, the weather was wet, cold, and unpleasant, and even at that late period, (1st of May) some remnants of the deep snow could be seen in some of the fields of this county. From this time to the first of June, the weather was pretty uniformly warm and dry, and it was during these warm and dry days, following the previous unusual cold, that the epidemic first made its appearance in this place. During the first days of June, a sudden change to cold and a severe frost were experienced, which destroyed nearly all the fruit in this vicinity. This was followed again by the opposite extreme to such an extent that, near the last of June, the mercury rose one day, at 2 o'clock, P. M., in the shade, to 102°, which is 4° warmer than any day during the previous year, as indicated by the same thermometer. The relaxation and torpor of the system, the sense of lassitude and indisposition felt by every one when exposed to a warm atmosphere, immediately following an unusually cold one; and its influence over the urinary and biliary secretions, is well known to every observer. But whether the disease under consideration is produced by some specific virus, some subtle agent, generated in the atmosphere by some peculiarity of season, or whether it is the direct effect of a combination of circumstances relating to atmospheric changes, such as those to which we have referred as occurring during the past season, it is probably, in the present state of our knowledge, impossible to determine.

We must confess, however, that we are unable to appreciate the force of the remarks of Dr. Holland, that the "identity of the disease at different periods of time, and in distant places, during the course of the same epidemic," can only be explained on the supposition of a material virus as its cause. For we are not aware that time or distance destroys the identity of any disease, and we believe an accurate description of a *pleurisy* in the days of Hippocrates would be equally characteristic of the same disease at the present day; and the detail of the characteristic symptoms of a common *catarrh* in New York, would apply equally well to the same affection in the *Mediterranean sea.* We believe the laws of nature are invariable; and that the same combination of circumstances in relation to the temperature, moisture, electricity, &c. &c., of the atmosphere, occurring at periods however distant, will, as surely, be productive of the same results or diseases, as will the recurrence at different times and places of the same material virus.

Treatment.—The treatment which every physician will pursue will depend very much on the views which he adopts in regard to the nature and cause of the disease. If we follow Dr. Holland, Dr. Forry, and others, who consider the disease as "presenting a definite course of morbid actions, the result of a specific virus, for which we know neither a specific antidote, nor, unlike the case of small-pox, a specific prophylactic"—and that "we can do no more than direct our efforts to the mitigation of such symptoms as may be in excess;" we shall undoubtedly, like them, seek to *palliate* rather than attempt to *cure* the disease. On the contrary, if we view the disease, whatever may be its cause, as one in which the liver is primarily affected in such a manner as to induce a torpor of that organ, and consequently a retention in the blood of some of those matters which ought to have been separated, we shall be led directly to a plan of treatment which we believe has been found eminently successful in the hands of many practitioners; and those, too, of the most diverse theories. This treatment consists in the exhibition of such remedies as will excite a free secretion from the liver, and a thorough, though not harsh evacuation of the stomach and bowels. For this purpose we know of no medicine so effectual as *calomel* and ipecac. in a dose sufficient to produce at first one or two free vomitings, and afterwards, aided by a laxative, a free operation of the bowels. We know of no instance during the past season, in which this remedy failed to bring away copious dark, *bilious* evacuation, followed by a speedy relief of all the severe symptoms. We at first attempted to treat the disease like other anginose affections, with antimony, diaphoretics, expectorants, &c., but with very indifferent success. We also saw it treated by others with stimulants, both of the *pepper* and *alcoholic* varieties; but with still less benefit. And it was not until we had watched the character of the evacuations, and observed that almost, if not quite every patient, who was attacked with any degree of severity, *vomited* freely, either spontaneously or otherwise, before any considerable relief was obtained, that we were led to adopt the plan of treatment which we have indicated. It is by no means essential that we give the particular combination mentioned, but we may accomplish the same object, though I believe less speedily, by giving an emetic of ipecac., and following it by mercurial purgatives, &c.

Bleeding and antimony are too debilitating in their effects to be admissible to any considerable extent in this disease. Indeed, I believe the only fatal cases which occurred within the bounds of my acquaintance were *bled* freely. In only three cases which came under my care, was bleeding resorted to, and though they all recovered, in only one did it appear to produce any benefit. If, after free evacuations, and a subsidence of the febrile symptoms, a severe, harassing cough remains, anodynes will be found of much service. We are well aware that this disease sometimes attacks an individual with considerable severity, and disappears again in two or three days without any remedial treatment whatever, and hence it has been said by high authority, that because the disease yields soon after the exhibition of certain remedies, there is no certainty that it was the treatment which produced the effect. We admit that the apparent success of any particular treatment in two or three cases *only*, would be very unsatisfactory. But when we see the same effects from the exhibition of the same remedies in a hundred different cases, embracing every variety of attack, from the mildest to the most *severe*, we must yield our confidence to their efficacy; or else doubt the curative effects of all remedies in all diseases. For we believe there are very few observing physicians but what have seen nearly all the diseases in the whole catalogue of human suffering, occasionally, nay, often, get well without anything but the restorative efforts of nature. But they would not, therefore, contend that remedies, other than palliatives, were useless.

ART. V.—*A Lecture on the Improvement of Medical Education in the United States; introductory to a course of Lectures in the University of New York for the session of* 1842–3. By MARTYN PAINE, M. D., M. V. H. P., Professor of the Institutes of Medicine and Materia Medica, in the University.

GENTLEMEN,

"There is no reputation for genius," says Quintilian, "to be gained by writing on things which, however necessary, have little splendor or show. The height of a building attracts the eye, but the foundations lie without regard. Yet, since there is not any way to the top of science, but from the lowest parts, I shall think nothing unconnected with the art of oratory, which he that wants cannot be an orator."

A disregard of the important principle inculcated by Quintilian in the extract which I have just made, and erecting edifices upon crude and inharmonious materials, or without even the shadow of foundation, have been the prolific causes of the present vacillation in medicine,—of the innovations which are made upon its most solid principles,—of the heresies which come as substitutes from the laboratory of the chemist,—of the "uncertainty" with which it is said to be cursed by nature.

The "imperfection of medicine" has become the watchword of a thousand ambitious minds; and there still lingers on our ear the bold and inconsistent declaration that the Science "is now in its infancy," yet susceptible of "mathematical certainty."* But, worse than all, the infant chemistry, which came into existence ages after medicine had nearly reached the maturity of manhood, having suddenly assumed the proportions and the strength of Hercules amongst his fellow gods, vociferates its pretensions as the legitimate parent of medicine, has driven cultivators from the field of organic nature, and its claim of paternity, which was once regarded as the most farcical stride of ambition, is now conceded to the more gigantic stature and overbearing deportment of this young scion of knowledge.

It has been well said, that "the opinions prevalent in one age, as truths above the reach of controversy, are confuted and rejected in another, and rise again to reception in remoter times. Thus the human mind is kept in motion without progress. Thus, sometimes, truth and error, and sometimes contrarieties of error, take each other's place by reciprocal invasion."† But, most of all, let me admonish you against the illusion which professes to have attained by a few simple observations, or through the chimeras of hypothesis, what it avows to have been the fruitless work of the most profound philosophers, and the closest observers of nature, for nearly three thousand years.

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* See my Medical and Physiological Commentaries, Vol. ii., pp. 679—815.

† Johnson's Preface to Shakspeare.

Let me not, however, be misunderstood. It is in no respect my design to undervalue the science of chemistry. The position which I have hitherto taken is defensive only. It is against chemistry when hunting for laurels in the field of physiology, of pathology, and of therapeutics. Thus far chemistry is a selfish aggressor, and may not complain that its encroachments are repelled without compromise, and without sympathy. In its appropriate walks none have greater delight than myself. They are decorated with gems of rich magnificence, of the rarest value, fascinating to the eye, luxurious to the imagination, fertilizing to the mind. Chemistry abounds, also, with sublimities, and overflows with useful inventions and discoveries. The more profoundly, also, we become imbued with a knowledge of the institutions of chemistry, the more shall we revolt from those schemes which engraft upon organic life the laws of a department of nature that are forever in conflict with it, and which ultimately lay waste the whole fabric of organization, and extinguish its ruling and creative principle,—till, at last, they shall reign triumphant over an universal ruin, and extend more and more widely the gulf which now separates organic life from the inorganic world. But, whilst there yet lingers on this or another globe a solitary being endowed with the principle of life, that being may hurl defiance at all the ordinary agents that may have contributed to the waste by which it is surrounded. The globe we inhabit, the whole heavenly system, are but designed for the abode and the uses of life. Those are but gross and subsidiary ; this, like its author, creative of organization, and associated with an immortal spirit whose capacities alone elevate the temple of its birth to proportions corresponding to its own divine nature.

I would, therefore, urge you to the diligent culture of chemical science, as a boundless source of intellectual improvement, for indispensable habits of critical inquiry and exact analysis, to enlarge the high prerogatives of our art, and to enable you to discern, as with the light of the sun, the utter estrangement of the laws which preside over the two great kingdoms of nature. And, in the language of Burke, let us never forget that "WHEN EDUCATION TAKES IN ERROR AS A PART OF ITS SYSTEM, THERE IS NO DOUBT BUT THAT IT WILL OPERATE WITH ABUNDANT ENERGY, AND TO AN EXTENT INDEFINITE."

It is only, therefore, to the application of chemistry to the lofty problems of organic life in its healthy and morbid aspects, and to the imbecility which would receive from the chemist—from him who lives in ignorance of organic nature, and is only concerned about the elements of matter—a system of philosophy applicable to living beings, and as that philosophy may be modified by disease, that I would offer an objection. "Let a man," says Locke, in his work on the Human Understanding, "be given up to the contemplation of one sort of knowledge, and that will become every thing. The mind will take such a tincture from a familiarity with that object, that every thing else, how remote soever, will be brought under the same view. A metaphysician will bring ploughing and gardening immediately to abstract notions ;—the history of nature will signify nothing to him. A chemist, on the contrary, shall reduce divinity to the maxims of his laboratory, explain morality by *sal*, *sulphur*, and *mercury*, and allegorize the Scripture itself, and the sacred mysteries thereof, into the philosopher's stone."

That this is no hyperbole, even at our day, take a passage in proof from Liebig's Organic Chemistry applied to Physiology and Pathology —a work just from the press.

"Physiology," he says, "has sufficiently decisive grounds for the opinion, that every motion, every manifestation of force, is the result of a transformation of the structure, or of its substance; that every conception, every mental affection, is followed by changes in the chemical nature of the secreted fluids; that every thought, every sensation, is accompanied by a change in the composition of the substance of the brain." (P. 8.)

"Chemistry applied to Physiology and Pathology," as it is absurdly called, is the infatuating genius that lays wait your path, and may beguile you into the worst and inextricable errors. It presents you a system of insinuating simplicity—promises you an exemption from intellectual toil—divests pathology and therapeutics, as well as physiology, of every intelligible principle—substitutes itself for all medical knowledge—overthrows every other department in the science—corrupting even its own principles—and renders the practice of medicine "as mechanical as the art of the shoemaker." It is this interference of the laboratory which has shaken so extensively the foundations of medicine, and which so cruelly debases the science. It is said that "there is a sort of gloss upon ingenious falsehoods, that dazzles the imagination, but which neither belongs to, nor becomes, the sober aspect of truth."

The various results of this unnatural enterprise have been intensely interesting to myself, and have engaged no little of my time, as well as my pen. The late publications of Liebig, the acknowledged chief in organic chemistry, will do much to awaken physiologists from their lethargy, or dispel the illusion which has seized upon them. From this time, organic chemistry will be on the wane. It has received a most fatal blow from its greatest champion. I may also say that his "Chemistry applied to Physiology and Pathology," has called up an efficient advocate of truth in the last number of the North American Review. The reviewer and myself are side by side in almost every opinion upon the important questions before us. The difference between us is, he states conclusions only, whilst I had argued the whole, and corroborated each one by a multitude of facts. This I had done even in anticipation of the present crisis. I commend this reviewer to your attention. His article should be read by every physician in the land, especially for the sake of the summary extracts which are presented. The citations alone from Liebig's work will turn every mind from the phantom which has hitherto beguiled the unreflecting part of our profession. You may learn their universal import from a single remark of the reviewer, as well as from my preceding quotation from the author.

"We have purposely given," says the reviewer, "our author's theory of disease and remedies almost exclusively in the author's words, lest any analysis of it should have seemed to our medical readers distorted or exaggerated. We do not think so unfavorably of the understanding of any reader, medical or non-medical, as to believe that there is one among them all who will require a word of comment to convince him how utterly unfounded and extravagant it is. If there be one such, he is past our remedy." "Such," the reviewer goes on, "is the splendid production upon which the British Association felicitates itself, which a Professor of King's College counts it such a glory to have introduced into the British world, and in regard to which there is so violent a contest for the honor of assisting at its birth on this side of the water." (October, 1842, p. 498.)

I say, therefore, that DRY LAND APPEARS, though it be yet far in the distance. It will give animation or courage to others who have hitherto looked on with *indifference*, or in *dismay*, or in *despair;* and we may even expect to be "ENCUMBERED WITH HELP WHEN THE SHORE SHALL HAVE BEEN REACHED IN SAFETY."

But it is not my present purpose to dwell on this extraordinary convulsion, or on its disastrous consequences to the welfare of man. They exist,—are sustained by a powerful array of numbers, and will be pushed till *fruitless ambition* shall take its natural course through other avenues to fame.

May it not be possible, however, to paralyze the operation of error, and bring into general diffusion the light of truth, ere the former shall have exhausted itself, or may scent a new game, and start on another chase? You say, perhaps, that the remedy for error is its exposure through the press; and in part, you say truly. But this is only a small part of the requirements of truth when besieged by its unrelenting adversary. What, indeed, would avail the clearest demonstrations of the most profound philosopher, did he not have willing and enlightened readers, or an attentive and cultivated audience? And medicine, as you will ultimately know, is the most difficult of all the sciences.

Here, then, is the great foundation upon which the superstructure can be alone erected. Knowledge must be carried through the wide domain of our profession. Its *elements*, however, can never be sufficient for the exigencies of the healing art,—can never resist that plausible simplicity which throws its fascinations around the chemical and other physical doctrines of life and disease, and will forever shrink from the stupendous and intricate philosophy which constitutes the true science of medicine. You must, therefore, aspire at the goal of medical philosophers, before you may comprehend or enjoy the philosophy of medicine. You must have willing minds, and steady purpose, before you will study the elaborate writings of its sages, and therefore, before those efforts of genius can bear with any practical effect upon the dogmas of ambition, or the errors of ignorance and superstition. "Books," says Bacon, "can never teach the use of books;" and I may add that in proportion as they are concerned about difficult principles, so must the practical habits of life, and experimental observation through the wide domain of Nature, be brought to their interpretation, and an exposition of their uses. The mind must gather instruction through the same channels from which books of instruction have been derived, before we may comprehend the nature of the latter. Then, shall you go on, with books and experimental observation hand in hand, to provide yourselves with a work of your own creation that shall surpass the most elaborate writings of any sage of our profession. For though, as said by Fenelon, "we admire with reason the invention of books, in which are presented the histories of so many facts, and which are the depositories of so many thoughts, what comparison is there between the most delightful book, and the brain of a learned man? There can be no doubt that this brain is a far more precious collection, and a much more beautiful invention than any book. In this little reservoir you can find, at any moment, every image that you desire. You call them, they come. You send them away, they hide themselves, we know not where, and others appear in their place. We open and shut our imaginations as we open and shut a book; as one may say, we turn over its leaves, we pass suddenly from one end of it to the other. We have even tablets in the memory, to indicate the places where certain images may be found. But, these innumerable characters, which the mind can read so rapidly, leave no traces on the brain. If you examine it, you see only a soft substance, a sort of cluster of fine and tender threads, and mostly water." If you analyze it with fire and acids, you get nothing but the mere elements of matter. The PRESIDING GENIUS evades the grossness of sense, alike in the hands of the physiologist, the anatomist, the chemist, and the medical philosopher.

Such is the book of books; and would you make the highest attainments in medicine, it should be a compound of many written books, and replete with inscriptions by the hand of Nature. It may not, however, be easy to indicate the amount of knowledge or of intellectual labor which is necessary to form a medical philosopher. This will depend much upon natural endowments, upon opportunities of observing nature, and the mode in which those opportunities are employed.

You are inducted over the threshold of medicine by the standard elementary authors; and you are farther initiated by lectures at our public institutions. But, at the very outset, you meet with error as well as with truth; and it is only by systematic perseverance, by rising from elementary anthors to the lecture-rooms of medical teachers, where principles are variously examined, and ascending to the elaborate writings of the great masters of our art, and then by applying to the whole the test of your own observations of nature, that you can separate what is true from the false, and acquire that proficiency in medicine which ensures the greatest practical success.

These propositions are too plain to be controverted; and it now only remains to ascertain whether there be any conditions of society which modify the requirements that are enjoined upon physicians by the highest and holiest dictates of the healing art?

Wherever man exists in a state of society, *there* will always be the professional ministers of relief to his suffering and disease. This is even true of the wandering Arab, and of the most abject and superstitious of our race. To them, nothing accrues but the havoc of ill-directed means, or, at best, the hope that is inspired by incantations and charms. These are the lobelia empirics of our own land; and whilst we regard with sorrow the unhappy destinies of our benighted brethren of the woods, or of the hovel, the victims of an obstinate delusion, where knowledge and christianity prevail, scarcely deserve a passing sympathy.

Since, therefore, practitioners of the healing art, whether for good or for evil, must abound in all assemblages of men, it is obvious that provisions should be made for the diffusion of medical knowledge as far commensurate with the vastness and the difficulties of the science, and with its relations to the human welfare, as the circumstances of each society will admit. There should be no limit to those requirements which humanity enjoins, and which education supplies, unless imposed by the common exigencies of society; and these are alone of a pecuniary nature. Where wealth abounds, as in the various states of Europe, medical education should be carried to the very stretch of the principles which I have suggested; and it is a scandal to their society that imperfections are tolerated in any shape. The diffusion of wealth should insure to every country in Europe an overflowing profession conversant with every useful department of science, and accomplished in the philosophy of medicine.

This, I believe, is, to a large extent, an undoubted proposition—so undoubted that there are not wanting many who would make this triumph of wealth a standard of requirements in our young and comparatively necessitous republic. Here, too, our institutions go for the equality of man, and legislation proceeds upon this conciliatory, however unfounded, principle. Whilst, therefore, medical education may be encouraged by provisions that do not conflict with the fundamental declaration of equality of rights and intellect, there will ever remain, whilst the doctrine remains, a passive, but licentious indulgence of the lowest quackery. Such will not only be the inevitable result of a principle adopted from policy, and which did better cause than the artillery of war, but the whole people being the arbiters of principle as well as of law, the majority will be slow to relinquish a concession so flattering to pride and so inflammatory to ambition—and, as you know, there will still be multitudes who will ride into power upon these infirmities of our nature, and who, when once in power, must sustain the fiction which gave them elevation. However, therefore, what is good in our republican institutions may surpass all other systems of social compact, we may make up our minds that medical quackery will receive at least the indulgence of our legislators.

This fundamental evil separates us still more widely from European states than the wealth and the leisure which give them an ascendency in literature and arts; and whilst, therefore, the latter may hold replenished the profession of medicine in its highest advances, their legislators, without fear and with a good conscience, may extinguish a pestilence which is more desolating to the human race than that "which walketh in darkness," or all the ravages of war.

Thus, then, we destroy the parallel which has been attempted between our own and European states, and show it the merest fiction of the visionary mind. Exact from our physicians the intellectual culture, and rear in this land the high standard of medical acquirements, which are so noble and fascinating in some of the schools of Europe, and quackery would reign almost universal from one end of the continent to the other. Is not the whole multitude, whether rich or poor, pressing forward either for greater wealth, or for the pittance of their daily bread? Nay, more, do not all our medical colleges hold out the temptation of moderate fees, and give, in their annual announcements, a conspicuous place *to the humble charges for the necessaries of life?** But what are these, compared with the expenses attendant on the prolonged and higher grades of academic and medical learning in some of the European states? And who does not see the inconsistency that would hold in one hand professions of cheapness to allure the student through our present system of medical discipline, and threaten with the other augmented fees and an impossible exaction upon time? The same principle, too, runs through all our primary schools, our academic, collegiate, legal, clerical, and political institutions. Cheapness of education, and a corresponding adaptation of time, are found indispensable to the general condition of society.

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* In the annual announcement for 1842, of one of the principal medical schools in America, and associated with one of the oldest universities, and located in a populous town, after a statement of the average price of board, it is added that there exist "abundant facilities for those who may wish to board themselves."

The question is, therefore, settled on the immutable principles of truth—of a truth which is founded in the exigencies of our country. We have not the means, we have not the leisure, to follow the standard of European wealth; nor can we control our destinies by European legislation. He, who, in America, aims at the profession of medicine, with honors and dignities as inviting as in the aristocracies of Europe, but less seductive than the allurements of wealth, comes from a class where the blandishments of the latter have no existence. He has worked his way from elementary schools through the higher departments of academic learning, under the frigid discipline of poverty, and he enters our halls of medical education with little else than the hope that his career may not be arrested by insane exactions, now, for the first time, borrowed from the overgrown wealth of Europe, and her old and rich institutions. Looking back upon my own fortunes in life—looking around upon what I every where witness, I sympathise, most deeply sympathise, with this class of the American family.

Raise, therefore, beyond a certain limited poise, our standard of absolute requirements, and I repeat it, with no fear of contradiction, we shall turn from our medical schools most of their aspirants into more humble channels, or into the walks of empiricism. The exigencies of American physicians demand an early application to the business of life. If we would cultivate the field of medicine, we must look for an early harvest, or, my word for it, it will soon be overrun with weeds. But these necessities by no means preclude the highest advancement in medical attainments. When the harvest begins, then is the time for the most salutary stimulus of ambition; and whoever yields to its spur, will find abundant opportunity to carry his knowledge to the highest stretch of his intellectual constitution. He has but to remember that professional rank can only be acquired by various learning; and, in the language of Johnson, he "who proposes to grow eminent by learning, should carry in his mind at once the difficulty of excellence and the force of industry; and never forget that fame is not conferred but as the recompense of labor; and that labor, vigorously continued, has not often failed of its reward." * These indisputable precepts compel the aspirant at medical renown, or even at the highest practical success, to limit his enjoyments to a social intercourse with his patients, to a participation in the general enterprises of society, to the study of nature, and lastly, to all the literature which may elevate the mind. These should be his recreations as well as his employment; and as knowledge

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*Rambler, Vol. I.

flows in, an inexhaustible fountain of happiness is acquired, whose very spray clouds the gaieties of life, and renders the pleasures of the intellectual man as circumscribed as the voluptuousness of wealth is discursive in its search after sensual gratifications. One is a steady, refined, and unalloyed enjoyment; the other gross, discontented, and forever sated with every thing but the new. "Philosophical happiness," says Burke, "is to want little; vulgar happiness is to want much, and to enjoy much."

If we look for a *defect* in the intellectual culture of the graduates of our medical schools, we shall find a pervading one in the neglect of the opportunities which perpetually surround them,—in the apathy which they evince towards the literature of the profession. This, I am sensible, grows in part out of those exigencies which limit the academic and professional requisites that introduce the student to the honors of the profession, and which, in late years, have made greater demands upon his habits of economy, and have tended yet farther to cool the ardor of ambition. A sickly fashion has grown up of deriding elaborate works on science. This is especially true of the science of medicine, which, more than any other, demands critical and minute investigation. It is the fashion of the age to conceal or reject the past, in all its transcendent lustre. There is a general demand for the *multum in parvo*, for the latest fashion in the fewest words,—and the less of nature it embraces, the more does it receive the applause of the multitude. I will not say that we must go back to the ancients for the true principles of medicine, though we shall find the best of our own embodied in their writings. But I will say that they had better habits of observing nature than ourselves. These, we should study, and learn from them the true sources of our best conceptions of nature. The Greek and Roman philosophers surpass all succeeding generations in many of the most elevated occupations of mind. The best of our poets, sculptors, historians, orators, are only humble imitators of their excellence. They have not a rival, not an equal in our own times. And how truly are the principles of medicine, like those of the fine-arts, engraven in bold relief upon the institutions of nature. If there be an apparent mystery, it is equally common to the whole; but it vanishes before the light of genius. The phenomena of disease were peculiarly attractive to such an order of mind; and springing then, as now, from the great laws of organization, the latter were grasped, as were the fundamental principles of taste, poetry, &c. The master-spirits of antiquity observed nature correctly, and drew their inductions from this only source of correct knowledge. They must therefore remain impregnable against all the adversities of time. (See my Med. and Physiol. Com. vol. 1, p. 333, vol. 2, p. 813.) A great work is to be done by the physician, and in proportion as deficiencies abound when he assumes the high responsibilities of his profession, it becomes him to investigate well every step of his experience, to employ his hours, or his moments of leisure, by day and by night, in garnering the experience which is supplied by the literature of the profession; and by rendering experimental observation and theoretical principles mutually subservient, he shall come, by degrees, to the attainment of distinguished worth, and the applause of mankind. It is true, as has been well said, that "men have sometimes appeared of such transcendent abilities, that their slightest and most cursory performances exceed all that labor or study can enable meaner intellects to compose; as there are regions of which the spontaneous products cannot be equalled, in other soils, by care and culture. But, it is no less dangerous for any man to place himself in this rank of understanding, and fancy he is born to be illustrious without labor, than to omit the care of husbandry, and expect from his ground the blossoms of Arabia."* "Every man," says the great moralist, "is obliged, by the Supreme Master of the Universe, to improve all the opportunities of good which are afforded him, and to keep in continual activity such as are bestowed upon him. But he has no reason to repine, though his abilities are small and his opportunities few. He that has improved the virtue or advanced the happiness of one fellow-creature, he that has ascertained a single moral proposition, or added one useful experiment to natural knowledge, may be contented with his own performance; and, with respect to mortals like himself, may demand, like Augustus, to be dismissed, at his departure, with applause."†

This is just in morals, as it is benevolent in principle, and where opportunities are limited, the doctrine should apply in its ample liberality. But it can scarcely serve as a mantle of charity where opportunities abound, as in the practice of medicine; though we may rest assured that the same great philosopher was universally right in affirming that "he who waits for an opportunity to do much at once, may breathe out his life in idle wishes, and regret, in the last hour, his useless intentions and barren zeal."‡

I have a few remaining words as to the nature of the admirable system of collegiate medical education which has spread over our land. It has grown out of the exigencies and enterprise of a young country and the republican character of its laws. It is adapted to the various conditions of society, and provides, in its lowest degrees, a class of physicians who are capable of yielding great benefits to the human family.

The medical students of the United States, who aspire at the honors of the profession, may be divided into three classes. One of these resort to the country schools, where lectures and board are low, though scarcely lower than in our cities. The advantage gained, therefore, consists in a more limited term of instruction, which diminishes expense, and often enables the graduate to enter sooner upon those practical labors which call loudly upon his attention. He goes forth, however, from these minor institutions with a fund of knowledge of immediate and salutary application, and which is capable of growing into a mine of inestimable value.

A second class are blessed with more ample means; and after husbanding their resources at one session of a country institution, they seek, at the next, the higher accomplishments which are to be found in the cities.

Lastly, come the aristocrats of our profession; made so through the difference of a few dollars, by those noble attainments which that little disparity in fortune qualifies them to bestow upon themselves. It is the aristocracy of mind and education—the only aristocracy which can advance, one iota, the dignity and the worth of man.

Here, then, we have a system of medical education remarkably adapted to the exigencies of our country; and for the very reason that it has sprung from those exigencies, under the stimulus of a general diffusion of knowledge, and the indomitable enterprise and ambition of our countrymen. Instead of deficiencies, it is only astonishing that a nation, just rising from its infancy, should have carried the general diffusion of knowledge far beyond any of the most enlightened states of Europe, should have reared more temples for the higher branches of education than can be found in all Europe together, should have its twenty-eight medical colleges, in most of which there are professors who do honor to the departments over which they preside. Wherever we turn ourselves, we are met by examples of aspirations at knowledge, whether private or public, which, however familiar, are so unusual in contrast with the infancy of nations,—aye, with the adolescence of the oldest communities,—that we often fail to regard the phenomenon as a reality of human enterprise. It meets us, indeed, in the forest as in places of greater wealth and refinement; and, even there, we behold institutions for the diffusion of medical knowledge commanding the attention of legislatures, and giving origin and impulse to various movements in science. Where, for example, was Missouri yesterday, and where is she to-day? "That State, which, within the memory of young men," says the able editor of the Boston Medical and Surgical Journal, (Aug. 3rd, 1842,) "was in the possession of savages, now vies with her sister States in the arts and refinements of modern society. Amongst the evidences of her onward progress, is the organization of a State Medical Society. The legislature has thus given a splendid exhibition of the wisdom of its councils, in chartering an institution which contemplates the preservation of the public health, almost in the commencement of its own existence;" the society having been incorporated in 1837. But, what is yet more to our purpose, the State of Missouri, in the year 1829, while yet a forest, where the white man mingled with the red, opened a university with a medical department of such commanding attitude that we can only look for its parallel to our own country.

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* Johnson's Rambler. † Ibid, Idler. ‡ Idler.

Nor are there any institutions more important than the *country* medical schools, since these are adapted to the means of a large class of students, who, without them, would either make but humble attainments, or seek other channels for the business of life; whilst, as I have shown, the places of the latter would be supplied with jugglers and empirics. Nay, more, a large proportion of our second class, such as divide themselves between town and country, wanting the facilities of attending, at first, a minor course of lectures, and not having the ambition which is there inspired, would never seek the higher advantages of our cities; but, in hopeless despair, would turn themselves to some other employment, or be compelled to dispense with the important advantages of public lectures.

The more, therefore, we consider this subject, the more we shall see the calamitous extent to which medical education would be reduced, or gross empiricism entailed upon society, were it not for our country medical schools; and it therefore follows, as a necessary axiom, that the standard of requirements cannot be increased in those institutions without equally defeating their objects.

It is therefore, also, as palpable as demonstration can make it, that our present system of collegiate medical instruction should remain without essential change in its *absolute requirements*, till such change can be sustained by a more general increase and diffusion of property, and by that diminished zeal for wealth which only follows its accumulation in the hands of many.

What is apparently lost in America by the more limited demands upon medical education than are exacted by a few European seminaries, is made up by the greater multiplication of our medical and academic institutions, by their general tone, and by the more general diffusion of medical knowledge. Nor is it a small part of our surrounding advantages, which go to the formation of character, of judgment, and practical habits, at the very outset of professional life, that our pecuniary wants turn us, almost from the cradle, to thoughtful habits of economy, and into the ways of industry. We thus, also, become early familiar with man in all his aspects; and with characters formed for decision by participating in the events of society, and early accustomed to mark the varieties of the moral constitution, we are better qualified, than they who spring from the nursery of wealth, to appreciate the various conditions of the physical, and to carry our habits of business into the chambers of the sick.

It is especially to moral influences proceeding from such causes, that I ascribe much of the acumen of American physicians in observing nature, and of concurring so remarkably in one decided practice—be it an active or an expectant plan which disease may demand; for decision and enlightened observation may be as necessary in one as in the other. American physicians are also generally familiar with the writings of some of those illustrious observers who form our best counsellors in the interpretation of nature; and it is only within a brief period that their attention has been at all directed to those oft-exploded physical theories of life which have so extensively supplanted the philosophy of organic nature in Europe.. No obstacle, therefore, having been interposed to divert us from our habits of observing nature, and having no leisure for ambitious views, we have gone on with our former conceptions of the vital nature of disease, and of the operation of remedial agents, and would as soon wait for the plough to move itself in the furrow, as to adopt the imbecile treatment of that nation in Europe which studies the pathology and the diagnosis of disease only when its treatment has ceased to be possible, and which began the insane enterprise of reviving the worst absurdities of the darkest ages of our science. And how is it with our mother country ? Deeply tainted, yet struggling with others of transcendent worth in Middle Europe, to maintain the ascendancy of truth. But; how stands the descendant, in comparative practical habits ? The honest Britain still lives to witness the spirit of his declaration in greater force than ever, that, "after all British reproaches against the American government and American physicians, for permitting the yellow fever to commit such ravages, this yellow fever made incomparably greater proportional ravages in a British garrison, where the authority of medical police was unlimited." And yet again, says the same eminent man, "in the West Indies, on the continent of Europe, at home, wherever the British army was posted during the last war, its history of health has offered not only pretexts to a challenged rival to scorn the arrogant superiority of the British *modern* medical practice, but also reasons for an impartial man to pause upon the claim." *

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* Beddoes on Fever and Inflammation, p. 235.

Such were American physicians when in all America there were only two medical institutions, and when their exactions were only commensurate with the financial ability of the country. Well may we, therefore, spurn the imputations of practical inferiority which have been sometimes heaped upon us even by those who derive their principal title to consideration from being born in the midst of so much enterprise and worth. It is the jealousy of narrow ambition, or the envy of more selfish or of weaker minds. But, whilst I would denounce the spirit of innovation which would overthrow the best institutions of the land, I certainly agree that were a more extended and varied knowledge of true science within our early grasp, it would exalt us yet higher in the scale of philosophy, and in the practical pursuit of our calling. Nor will I leave this important subject without saying, that I am determined to be correctly understood and correctly represented upon one fundamental point, at least—and that is, that I am an ardent advocate of a profound medical education—ever have been, and so mean ever to remain. I am ready to lend all my feeble aid to any plan which may be regarded by judicious and disinterested men as a feasible improvement of our present collegiate system.

PART SECOND.

Critical Analysis.

Art. VI.—*The Hospitals and Surgeons of Paris, an Historical and a Statistical account of the Civil Hospitals of Paris, with Miscellaneous Information and Biographical Notices of some of the most eminent of the living Parisian Surgeons.* By F. Campbell Stewart, M. D. New York: J. & H. G. Langley. 1843. 8vo., pp. 432.

To the general reader, this must prove a highly interesting book; to the members of the profession generally, presenting as it does a lively picture of the profession in Paris, and also of the existing condition of its hospitals and medical institutions, it must be both interesting and useful; but there is a third class—those visiting Paris professionally—to whom it will prove of incalculable service as a guide.

> "Having experienced," he says, "many inconveniences himself on his first arrival in Paris, from the want of correct knowledge as to the customs and habits of the place, and how to employ his time most advantageously, the author has endeavored to supply it to those who may be going abroad; and besides the information in regard to their addresses and the hours of admission to the various places of medical resort, which is interspersed under different heads throughout the pages forming the first part, it will be seen that some sections have been composed for the benefit of this class of readers alone. A full list of the medical and scientific journals published in Paris has been introduced; and the Bibliographical Index will, it is hoped, prove useful to those who may be desirous of procuring French medical works.
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> "The notices of the different Hospitals and Hospices have been extended, so as to embrace a pretty full account of each one; and the Sections devoted to the Schools of Medicine and Pharmacy, the Dissecting Rooms, Museums, &c., are believed to contain all the information likely to prove useful or interesting to the reader.
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> "In the article on 'Medical Instruction in France,' and the 'advantages of studying in Paris,' such branches of the profession have ben indicated as may be there pursued with the greatest facility, or to the greatest advantage by foreigners. The remarks on the 'Condition of the profession in France,' are believed to be just; and it cannot be denied, but that the general standard of professional acquirement in that country is much higher than in our own.. The author has been requested to introduce into the work a notice of the present condition of Homœopathy in Paris; he regrets his inability to do so, from the circumstance of his being entirely ignorant of the estimation in which it is there held, never having once heard it named, or made a topic of conversation amongst scientific men, or the intelligent portion of the French community, during the whole period of his residence abroad."

The work is divided into two parts, first, the "*Hospitals of Paris*," and secondly, "*Lives of the Paris Surgeons*."

Our author first treats of the general administration of Hospitals, their organization and their regimen. He then describes in detail the general hospitals, as the Hôtel-Dieu, the Hôpital de la Charité, de la Pitié, etc. Next come the special Hospitals, which are "for accommodating patients laboring under diseases which are of sufficiently frequent occurrence to authorize the establishment of a special institution for their treatment." Of these there are ten, of each of which a distinct description is furnished. Lastly, he treats of the Hôspices or almshouses, established in different parts of Paris and its vicinity for the reception of old, indigent, and incurable persons of both sexes, and for orphans and foundlings. Of these there are twelve.

There is also a *Bureau de Bienfaisance*, or Charity Office, established in each of the twelve arrondissements of Paris, for the relief of old and indigent persons, and of poor widows with large families; and there is likewise a Bureau des Nourrices, for the reception and accommodation of wet nurses, who are in want of situations, this last being a most important institution.

We have also interesting chapters upon the mortality in the public hospitals of Paris, their revenues and expenses. Moreover there are in Paris and its vicinity as many as sixty private hospitals, called *Maisons de Santé*.

But there is still another hospital, viz., the Royal Veterinary School and Hospital at Alfort, which, as it is the largest and most important of the kind in France, is quite fully described by Dr. Stewart. Its stables, gardens, museums, pharmacy, operating-room, lecture-rooms, etc., are all upon an extensive scale.

The remarks of our author upon medical instruction in France, upon the condition of the profession, and the advantages of studying at Paris, are very interesting and instructive.

> The lectures, on all the branches of science, delivered at the public schools are gratuitous; and, moreover, as lecturing is one of the most common means adopted for gaining notoriety and advancement, a number of young men will be always found engaged in repeating the lectures of the professors. These courses likewise are usually free, and the general, as well as the special student, will find every avenue to learning laid open before him. The attainment of all kinds of knowledge is thus rendered comparatively facile, and in no other part of the world can general or professional studies be pursued to greater advantage, or at so little cost to the student, as in France.
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> The condition of the medical profession in France, is probably as elevated as in any other country of the world. Rigid tests of capability are demanded of all applicants for the honor of admission into its ranks, and the same fostering care is bestowed upon it by the government, as upon other professions. The system of education pursued is as well adapted to the present state of medicine as may be possible, and the preliminary examinations, to which all students are subjected before being allowed even to enter themselves as candidates for medical honors, have been the means of establishing a high standard of general acquirement. A gradual increase has been made during the last ten years, in the quantum of knowledge required by the medical faculties, and the last important step taken, was that making it incumbent on all students to obtain a diploma of Bachelor of Sciences, before they can be permitted to undergo their fifth or final examination for a degree.

The subjects that may be here studied under circumstances peculiarly favorable, are the following: Anatomy, diagnosis, obstetrics, pathological anatomy, diseases of the skin, diseases of children, botany, diseases of the eye, practical chemistry, operative surgery, orthopedy, etc.

As the Concours (from *concourir*, to run together, to compete,) is peculiar to this country, we will here present the following account given by our author:

> The advantages attending the system of the Concours or public competition as established in France, have, after a test of many years, been found inestimable; by it an equal and fair opportunity is afforded to all for making known their respective qualifications, and all such as possess superior talent and acquirement are sure of meeting with encouragement and promotion. Its advantages are fully illustrated by the present position of the distinguished Valpeau, and most of those who now stand at the head of the profession in France, who, without friends or interest, would never, but for the Concours, have been able to work their way to the high positions which they now occupy. Dupuytren owed his elevation to successful competition, and always remained a strong advocate of the system.
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> All medical offices in France, whether civil or belonging to the army or navy, are put up for public competition, and he who is found best prepared, is generally selected to fill the situation. The system is extended from the dressers and students of Pharmacy in the hospitals, to the professors and highest officers, the tests of proficiency increasing in severity with the importance of the office contended for.
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> Whenever a vacancy occurs either in the faculty or in the hospitals, notice is given that all who are entitled to do so, may come forward and enter themselves as candidates, after which a time is named for the examination, and this is usually conducted in a fair and honorable manner. The tests for all offices vary with the nature of the office; thus a prosector is examined, chiefly in reference to his anatomical knowledge and capabilities as a dissector; a professor with a view to his talent as a lecturer, and his knowledge of the particular branch which he will have to teach, and so on.

Our author next presents a series of interesting sections upon the School of Medicine, the School of Pharmacy, Private Courses, Dissecting Rooms, Libraries, Botanical Gardens, and Museums. Then follow Academies and Medical Societies, Medical and Scientific Journals, and even miscellaneous information as regards expenses and mode of living in Paris. The last includes hotels, lodging-houses, boarding-houses, restaurants, cafés, table d'hôtes, booksellers, surgical instrument makers, and finally the actual expenses incident to a medical student from abroad prosecuting his studies at Paris. But this is not all, we are even presented with a section on conveyances, including *fiacres*, *citadines*, *cabriolets*, and *omnibuses*, with the exact charges for public vehicles, as regulated by an *ordonnance* of the Prefect of Police.

The first part is concluded with a biographical index of thirty-one pages. This is intended for persons who are not perfectly familiar with the French medical literature of the day, showing them which are the most approved and recent publications on the various subjects of Medicine and Surgery.

Part second consists of the "Lives of the Paris Surgeons," in which are included the following individuals: Amussat, Baudens, Bérard, Breschet, Civiale, Cloquet, Dubois, Gerdy, Guérin, Jobert, Larrey, Laugier, Leroy, Lisfranc, Malgaigne, Marjolin, Ricord, Roux, Ségalas, Velpeau, Orfila.

The following introductory remarks will give the reader an idea of the *general* character of these distinguished *savants*:

Many combined circumstances tend to render interesting the lives of the distinguished individuals who now stand at the head of the medical profession in France. They are all men possessed of much natural talent, and who, from constant and continued application, have acquired a profound knowledge of their profession. Most of them have succeeded without friends, interest, or pecuniary assistance, in attaining enviable positions among the scientific men of Europe, and hence it cannot but be instructive, as well as interesting, to trace and examine their successive steps towards advancement and distinction.

Until within the last few years—since the Revolution of 1830—the medical profession was rather discountenanced in European society, and it was a difficult matter for its members to gain access to posts of honor or emolument under the government. As a natural consequence of this state of things, but very few persons entitled by birth or other advantageous circumstances to anticipate success in less laborious pursuits, would condescend to study, much less engage in the practice of medicine; all who were ambitious of other than a literary distinction, and desirous of participating in the enjoyments of refined and fashionable society, abandoned it. It was thus left almost entirely in the hands of the middle and lower classes, and owing to the liberality of the government in providing gratuitous instruction on the various branches of science, and extending equal facilities to all its subjects for obtaining information, poor and ambitious young men from the provinces were induced to repair to Paris and enter upon the study of the only profession through which *they* could expect to obtain distinction and worldly prosperity.

Thus it will be found that several of the eminent surgeons and physicians in France have arisen from the lowest castes of life, and many from the uttermost depths of poverty. Besides such as will be found in the following pages, there are many other instances in the history of the French medical profession, which go to prove that it is only necessary to use proper exertion and attention to ensure success, even under the most disadvantageous circumstances. Poverty always acts as a powerful stimulus; and Dupuytren used to illustrate this, for the encouragement of the poorer members of his class, by telling them in his lectures, that 'had not *Monsieur* Dupuytren been compelled from poverty to trim his student's lamp with oil from the dissecting-room, he never would have succeeded in becoming Monsieur *le Baron* Dupuytren.'

Although many of them are of comparatively low origin, the eminent French surgeons of the present generation are, for the most part, honorable, upright, and high-minded men—devoted to science, and indefatigable in their endeavors to extend and multiply the benefits of surgery. As a body, they present an imposing array of natural talent, professional experience, and extensive general acquirements; as individuals, they are, with some few exceptions, amiable and accomplished gentlemen, possessing the national gaiety and playful cheerfulness, tempered, however, by professional dignity and an appropriate gravity of demeanor.

Many of their predecessors now occupy places in history, and the time must come when the same honor will be extended to some of those whose lives are traced in the following pages.

ART. VII.—*Observations on Obstetric Auscultation, with an Analysis of the Evidences of Pregnancy, and an Inquiry into the Proofs of the Life and Death of the Fœtus in Utero. By* EVORY KENNEDY, M. D., Licentiate of the King and Queen's College of Physicians in Ireland, Lecturer on Midwifery, and the Diseases of Women and Children, at the Richmond Hospital School, and late Assistant to the Dublin Lying-in-Hospital. With an appendix containing Legal Notes, by John Smith, Esq., Barrister at Law. With Notes and Additional Illustrations, by Isaac E. Taylor, M. D. New York: J. & H. G. Langley. 1843. 12mo. pp. 311.

FOR this little work, illustrated with seventeen lithographs executed in Endicott's finest style, we predict a widely extended circulation. We have here presented within a small compass, what has been heretofore found scattered through tomes; and, indeed, some of the matter has never before been laid before the American reader, except perhaps through the pages of our periodical literature.

As regards the importance of the subject presented in this volume, the author justly remarks:

> If we for a moment consider the responsible task the medical adviser is occasionally called upon to perform, when desired to pronounce on the existence or absence of pregnancy; that peace of mind, domestic happiness, character, property, nay, even life itself, may be sacrificed by inaccuracy in his diagnosis; we shall find ample reason to question, whether there be, in the broad field of medical science, any subject which more calls for the attention of the practitioner, as well from its importance as from the difficulty so frequently attending its investigation.
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> Every medical man, at all conversant with midwifery practice, knows how often he is required to give an opinion in cases of doubtful pregnancy, by his ordinary patients, who are naturally anxious to be acquainted with their real situation; and he also well knows what dissatisfaction and want of confidence his refusal to give a decided answer on this subject frequently engenders. How much is his embarrassment increased, when he is called on to decide in those cases where private character or public justice is at stake, and in which, from their very nature, must be expected nought but concealment and misrepresentation!
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> It is a matter very easily proved, that difficulties in this respect do, and by no means very unfrequently, meet us in our practice. It shall be our endeavor to explain upon what these depend, to canvass the means at present relied upon for meeting them, and to offer some in addition, which may guide and assist us in overcoming them.

These subjects have, however, within the last few years, engaged some of the most eminent writers on Midwifery. Although much light has been thrown upon the diagnostic signs of pregnancy, yet the obscurity of the subject still demands much elucidation. In this state of acknowledged deficiency in our diagnosis, it is strange that more than twenty years have been allowed to elapse since Dr. Kergaradec directed the attention of the profession to obstetrical auscultation, without its splendid results having become generally known to the profession. Even in our systematic works on Midwifery, the subject seems to have mostly escaped the notice of authors. In our last No., however, we laid before our readers a valuable original communication upon this subject.

The following are the subjects treated of: 1. *Evidences of Pregnancy,* which are divided secondly, into those sensible to the medical attendant.

These are, firstly, *Tangible Evidences*, including vaginal examination, changes in the os uteri, development of the neck, tilting up of the fœtus, (*abattement*), abdominal enlargement, percussion, active motions of the fœtus, and passive motions (*ballottement*).

Among these evidences of pregnancy, we will bring under notice that of *abattement* alone :

> There is a method of distinguishing the enlargement of the uterus from pregnancy, which will be available in many cases, and is well deserving of our attention, more particularly as it is less liable to deception, and goes more directly to prove the presence of what we seek, namely, a child in the uterus, than any signs as yet spoken of. This is the passive motion of the child, produced by tilting it upwards, with the finger suddenly pushed against the anterior part of the uterus between the *os uteri* and pubis; when, whether the child be alive or dead, provided it be moveable and sufficiently bulky to communicate the sensation, we shall observe it 10 rise from the finger, floating in the liquor amnii, and again descend with a slight shock, resting on the spot from whence it was dislodged, and communicating an impulse to the finger. This sign is detected most distinctly when the head of the child is situated beneath; and it is with the head the finger most frequently comes in contact. The period of pregnancy which answers best for the application of this test is from the fifth to the seventh month inclusive, as at an earlier or later period the child is either too large or too small to communicate the shock, and admit of the facility of motion necessary to produce it. In many cases it is impossible to produce this passive motion of the child; this may arise from narrowness of the vagina, the child being fixed, or situated high up in the uterus, so as to render it difficult to reach it with the finger in the manner pointed out. Although this passive motion of the child, or, as the French term it, *abattement*, is a sign of considerable importance, we must even in it guard against deception. The case most likely to deceive us by a resemblance to the *abattement* would be one of ascites combined with abdominal tumor, particularly if this were moveable; such, for instance, as fatty tumors of the mesentery, or tumors attached to any of the floating viscera.

Secondly, *Visible Evidences*, comprising mammary development, formation of areola, etc., emerging of umbilicus, abdominal fissures, discolored skin, spots, jaundice, etc., swelled limbs, Nauche's urinary test, etc.

By means of the chemical test proposed by M. Nauche, he says that pregnancy may always be detected " by allowing the urine of pregnant women or nurses to stand for some time, say from thirty to forty hours, when a deposit takes place of white, flaky, pulverulent grumous matter, being the caseum or peculiar principle of the milk formed in the breasts during gestation."

As regards the value of this sign, much difference of opinion exists. The American editor of this volume has himself investigated this subject very fully. Although it is entitled to little reliance as a sign *per se*, yet when we consider that no one of the signs can be regarded as absolutely certain, this chemical test becomes one of considerable value.

We now come to the third division, termed *Audible Evidences*, consisting of auscultation, mediate and immediate. The former are denominated the *signs of pregnancy*, but these are considered *demonstrable* evidences. If they do not, in all cases, furnish a positive and certain diagnosis of pregnancy, they will at least, provided the puerperal state is sufficiently advanced, enable us to decide with pretty great certainty. This part of the volume is invested with the highest interest; and were it not that, in our last No., the uterine souffle, the pulsations of the fœtal heart, and the diagnosis of presentations and positions, were fully treated by Dr. Van Arsdale, we should here enlarge upon the subject.

This analysis of the evidences of pregnancy is continued in reference to various kinds, viz., *compound*, *complicated*, and *pseudo*-pregnancy, the last being divided into *nervous or ideal* and *premeditated* or *simulated*. Lastly, an inquiry into the proofs of the life and death of the fœtus in utero, is presented.

A curious and authentic case of uterine vagitus is related, which we will here quote; and we may add that we once witnessed a phenomenon bearing some analogy to this, which consisted in the child's repeatedly sucking our finger long before it was born; but as the child was finally still-born, in consequence of great pelvic deformity, it follows that, though it never breathed in the world, yet it did so, to some extent, before it got into the world.

It may be well to mention here a curious phenomenon observed by the author with regard to the fœtus in the uterus, namely, its power of breathing and crying in this position. This is a circumstance, the possibility of which, we confess we should more than question, had we not undoubted proof of the fact, as the following case will testify.

I was called up one night by an intelligent pupil in the hospital, who informed me, that a very strange sound was observed to come from a patient in labor, resembling exactly the whine of a child.

On going into the labor ward, I found the nurses and pupils surrounding a patient's couch with out-stretched necks, listening with greatest intensity and amazement; and on approaching within about six feet of the bed, I distinctly heard a low moaning whine, resembling the faint and painful cry of a delicate seven months' child; this became more distinct the nearer I approached the patient, and there could be no doubt whatever, that it came from the abdomen of the woman on the couch, however produced. Still sceptical, I applied the stethoscope, when the fact was proved beyond a doubt, as not only the cry mentioned, but the labored respiration of the fœtus was perfectly audible. A vaginal examination was instituted, and the head was found presenting, but high in the pelvis. The parts were only partially dilated, although the membranes were ruptured, and the waters had drained off shortly before. This woman was not delivered for four hours, and the above phenomena were observed by several of the pupils, up to the time of the child's birth. This patient's name was Morell, the date of her delivery the 2d of December, 1830.

This case not only establishes a curious, we had almost said incredible fact, but in a medico-legal point of view, is of some importance, and shows in a striking manner the futility of some of the tests most depended on in child-murder.

As regards pseudo-pregnancy, it appears that this curious simulation of what nature views as decidedly one of her first laws—the law of re-production—is not restricted to the human species.

Fodere gives cases in which it occurred in the bitch, the cat, and the cow. In these, all the symptoms of pregnancy were present; and even the supplemental functions were so perfectly called into action by this mistaken sympathy, that some of them had milk secreted, with which, although disappointed in their hopes of an offspring of their own, they were enabled to suckle the young of others.

The American editor has presented in this republication to his countrymen what has been long a desideratum to the obstetric student.

"He has also ventured," he says, "to draw comparisons between pregnant and non-pregnant females—primiparæ, and those who have borne children, which may possibly be acceptable to the younger members of the profession, and to those whose minds have not yet been directed to this subject. He has also enlarged more fully on other late signs of pregnancy, which have received but a passing notice from the author." In a word, as much valuable information has been elicited since the publication of Dr. Kennedy's work, he has not failed to combine this with the results of his own experience, thus rendering the whole a complete manual of obstetric auscultation.

But, in conclusion, we must again refer to the beautiful illustrations of this volume, not only as being very fine specimens of the lithographic art, but as being the result of the labor of the American editor, who found but one-third the present number, and these too of the rudest kind, in the original work.

ART. VIII.—*A Classical Dictionary: containing an account of the principal proper Names mentioned in Ancient Authors, and intended to elucidate all the important points connected with the Geography, History, Biography, Mythology, and fine Arts of the Greeks and Romans; together with an account of the Coins, Weights, and Measures, with tabular values of the same.* By CHARLES ANTHON, LL. D., Jay-Professor of the Greek and Latin Languages in Columbia College, New York, and Rector of the Grammar School. New York: Harper & Brothers: 1841. 8vo., pp. 1423.

A Dictionary of Greek and Roman Antiquities. Edited by WILLIAM SMITH, Ph. D., *and illustrated by numerous engravings on wood. First American Edition, carefully revised, and containing numerous additional articles relative to the Botany, Mineralogy, and Zoology of the Ancients.* By CHARLES ANTHON, LL. D., Prof., etc. New York: Harper & Brothers: 1843. 8 vo., pp. 1124.

AT the first glance of the reader at these titles, he may be induced to turn to the title-page of this magazine, in order to be sure that he has in his hands a medical work; but, after he shall have read the following notice of these two extraordinary productions, he will no longer doubt the propriety of their introduction here.

In the first place, we assume it to be universally admitted among our readers, that a physician ought not only to be well educated in his own profession, but ought to have a general acquaintance with the circle of human knowledge; and upon this ground alone we might be justified in introducing these volumes to their notice. It is, however, upon other grounds—*grounds strictly medical*—that we ask the attention of the profession to the writings of Charles Anthon, LL. D., whose literary labors constitute him an honor not only to his own country, but to all human kind.

As regards the "Classical Dictionary," we shall merely state that we looked for the words, *Æsculapius, Hippocrates, Celsus, Galenus, Asclepiades, Aretæus, Oribasius, Aëtius, and Paul of Ægina*, and that under each we found a valuable and highly interesting article.

The "Dictionary of Greek and Roman Antiquities," we found perhaps still more prolific in ancient medical literature. Under the head of *Medicus*, an interesting article occurs, from which we make the following extract:

> As there were no hospitals among the ancients, the chief places of study for medical students were the Ἀσκληπιεῖα, or temples of Æsculapius, where the votive tablets furnished them with a collection of cases. The Asclepiadæ (*vid.* MEDICINA) were very strict in examining into and overlooking the character and conduct of their pupils, and the famous Hippocratic oath, (which, if not drawn up by Hippocrates himself, is certainly almost as ancient,) requires to be inserted here, as being the most curious medical monument of antiquity. "I swear by Apollo the physician, by Æsculapius, by Hygeia, and Panaceia, and all the gods and goddesses, calling them to witness that I will fulfil religiously, according to the best of my power and judgment, the solemn promise and the written bond which I now do make. I will honour as my parents the master who has taught me this art, and endeavour to minister to all his necessities. I will consider his children as my own brothers, and will teach them my profession, should they express a desire to follow it, without remuneration or written bond. I will admit to my lessons, my discourses, and all my other methods of teaching, my own sons, and those of my tutor, and those who have been inscribed as pupils, and have taken the medical oath; but no one else. I will prescribe such a course of regimen as may be best suited to the condition of my patients, according to the best of my power and judgment, seeking to preserve them from any thing that might prove injurious. No inducement shall ever lead me to administer poison, nor will I ever be the author of such advice: neither will I contribute to an abortion. I will maintain religiously the purity and integrity both of my conduct and of my art. I will not cut any one for the stone, but will leave that operation to those who cultivate it (ἐκχωρήσω δὲ ἐργάτῃσιν ἀνδράσι πρήξιος τῆσδε.)· Into whatever dwellings I may go, I will enter them with the sole view of succouring the sick, abstaining from all injurious views and corruption, especially from any immodest action towards women or men, freemen or slaves. If, during my attendance, or even unprofessionally in common life, I happen to hear of any circumstances which should not be revealed, I will consider them a profound secret, and observe on the subject a religious silence. May I, if I rigidly observe this my oath, and do not break it, enjoy good success in life, and in [the practice of] my art, and obtain general esteem forever; should I transgress and become a perjurer, may the reverse be my lot." As regards the passage of the oath, given above in the original Greek (ἐκχωρήσω δὲ κ. τ. λ.), though the writer has translated it thus, both here and also in page 241, he does not feel at all sure that the other construction, viz., making πρήξιος τῆσδε depend on ἐκχωρήσω, is not preferable. With regard to the oath itself, it is generally considered to be spurious; but M. Littré, the editor of the new Paris edition of Hippocrates, believes it to be genuine. For a copious and learned explanation of every clause of the oath, see Meibom's edition, Gr. and Lat. Lugd. Bat. 4to., 1643.

These sentiments speak volumes in favor of the nobleness of our art; and they teach us that a science that has had such an origin, cannot but be destined for the highest and noblest of human purposes.

In this Dictionary we likewise find the following subjects well treated: *Chirurgia, Diætetica, Dogmatici, Eclectici, Empirici, Gymnasium, Medicina, Methodici, Pathologia, Pharmaceutica, Physiologia, Pneumatici, Semeiotica, Therapeutica*, and *Theriaca*.

As regards the relation of Gymnastics to the Medical Art, the following extract will prove both interesting and instructive to the modern physician, who pays too little attention to this which constituted an important part of the ancient system of therapeutics:

> The games of the Greeks had an immediate influence upon the art of healing, because they considered gymnastics to be almost as necessary for the preservation of health as medicine is for the cure of diseases. It was for this reason that the gymnasia were dedicated to Apollo, the god of physicians. The directors of these establishments, as well as the persons employed under their orders, the bathers or aliptæ, passed for physicians, and were called so on account of the skill which long experience had given them. The directors, called παλαιστροφύλακες, regulated the diet of the young men brought up in the gymnasia; the sub-directors, or *Gymnastæ*, prescribed for their diseases; and the *inferiors* or bathers, aliptæ, intraliptæ, practised blood-letting, administered clysters, and dressed wounds, ulcers, and fractures. Two of these directors, Iccus of Tarentum, and Herodicus of Selymbria, a town of Thrace, deserve particular notice for having contributed to unite more closely medicine and gymnastics. Iccus, who appears to have lived before Herodicus (*Olymp.* lxxvii.) gave his chief attention to correcting the diet of the wrestlers, and to accustoming them to greater moderation and abstemiousness, of which virtues he was himself a perfect model. Plato considers him, as well as Herodicus, to have been one of the inventors of medical gymnastics. Herodicus, who is sometimes called Prodicus, lived at Athens a short time before the Peloponnesian war. Plato says that he was not only a sophist but also a master of the gymnasium and physician, and, in fact, he united in his own person these three qualities. He was troubled, says the same author, with very weak health, and tried if gymnastic exercises would not help to improve it; and having perfectly succeeded, he imparted his method to others. Before him medical dietetics had been entirely neglected, especially by the Asclepiadæ. If Plato's account may be taken literally, he much abused the exercise of gymnastics, as he recommended his patients to walk from Athens to Megara, and to return as soon as they had reached the walls of the latter town. The distance from Athens to Megara was 210 stadia, as we learn from Procopius. Dio Chrysostom calls it a day's journey. Modern travellers reckon eight hours. The author of the sixth book *De Morb. Vulgar*, agrees with Plato: "Herodicus," says he, "caused people attacked with fever to die, from walking and too hard exercise, and many of his patients suffered much from dry rubbing." A short time after we find, says Fuller, that Hippocrates, with some sort of glory, assumes to himself the honour of bringing that method to a perfection, so as to be able to distinguish πότερον τὸ σιτίον κρατέει τοὺς πόνους, ἢ οἱ πόνοι τὰ σιτία, ἢ μετρίως ἔχει πρὸς ἄλληλα, as he expresses it. Pursuant to this, we find him in several places of his works recommending several sorts of exercises upon proper occasions; as, first, friction or chafing, the effects of which he explains, and tells us that, as in some cases it will bring down the bloatedness of the solid parts, in others it will incarn and cause an increase of flesh, and make the part thrive. He advises walking, of which they had two sorts, their round and straight courses. He gives his opinion of the Ἀνακινήματα, or preparatory exercises, which served to warm and fit the wrestlers for the more vehement ones. In some cases, he advises the Παλή, or common wrestling, and the Ἀκροχειρίη, or wrestling by the hands only, without coming close, and also the Κωρυκομαχίη, or the exercise of the Corycus, or the hanging ball; the Χειρονομίη, a sort of dexterous and regular motion of the hands and upper parts of the body, something after a military manner; the Ἀλίνδησις. or rolling in sand; and once we find mentioned, with some approbation, the Ἤπειροι Ἵπποι, *Equi Indefiniti*, by which is probably meant galloping long courses in the open field.
>
> As for Galen, he follows Hippocrates in this as closely as in other things, and declares his opinion of the benefit of exercises in several places; his second book, "De Sanitate Tuenda," is wholly upon the use of the *strigil*, or the advantage of regular chafing: he has written a little tract, Περὶ τοῦ διὰ Μικρᾶς

Σφαιρας Γυμνασίον, wherein he recommends an exercise, by which the body and mind are both at the same time affected. In his discourse to Thrasybulus, Πότερον Ἰατρικῆς ἢ Γυμναστικῆς ἔστι τὸ Ὑγιεινόν, he inveighs against the athletic and other violent practices of the *gymnasium*, but approves of the more moderate exercises as subservient to the ends of a physician, and, consequently, part of that art. The other Greek writers express a similar opinion; and the sense of most of them in this matter is collected in Oribasius's "Collecta Medicinalia." In those remains which are preserved of the writings of Antyllus, we read of some sorts of exercises that are not mentioned by Galen or any former author; among the rest, the *Cricilasia*, as the translators by mistake call it, instead of *Cricoëlasia*. This, as it had for many ages been disused, Mercurialis himself, who has made the most judicious inquiries into this subject, does not pretend to explain; and I believe, says Freind, though we have the description of it set down in Oribasius, it will be hard to form any idea of what it was.

The ancient physicians relied much on exercise in the cure of the dropsy, whereas we almost totally neglect it. Hippocrates prescribes for one that has a dropsy ταλαιπώριαι, or *fatiguing exercises*, and he makes use of the same word in his Epidemics, and almost always when he speaks of the regimen of a dropsical person, implying that, though it be a labour for such people to move, yet they must undergo it; and this is so much the sense of Hippocrates, that Spon has collected it into one of the new aphorisms which he has drawn out of his new works. Celsus says of this case, "*Concutiendum multa gestatione corpus est.*" The Romans placed great reliance upon exercise for the cure of diseases; and Asclepiades, who lived in the time of Pompey the Great, brought this mode of treatment into great request. He called exercises *the common aids of physic*, and wrote a treatise on the subject, which is mentioned by Celsus in his chapter "De Frictione," but the book is lost. He carried these notions so far, that he invented the *Lecti Pensiles*, or hanging beds, that the sick might be rocked to sleep; which took so much at that time that they came afterward to be made of silver, and were a great part of the luxury of that people; he had so many particular ways to make physic agreeable, and was so exquisite in the invention of exercises to supply the place of medicine, that perhaps no man in any age ever had the happiness to obtain so general an applause; and Pliny says by these means he made himself the delight of mankind. About this time the Roman physicians sent their consumptive patients to Alexandrea, and with very good success, as we find by both the Plinys; this was done partly for the change of air, but chiefly for the sake of the exercise by the motion of the ship; and therefore Celsus says, "*Si vera Phthisis est, opus est longa navigatione;*" and a little after he makes *Vehiculum* and *Navis* to be two of the chief remedies. As for the other more common exercises, they were daily practised, as is manifest from Celsus, Cælius, Aurelianus, Theodorus Priscianus, and the rest of the Latin physicians. And we do not want instances of cures wrought by these means. Suetonius tells us that Germanicus was cured of a "crurum gracilitas," as he expresses it, (by which he probably means *an atrophy*,) by riding; and Plutarch, in his life of Cicero, gives us an account of his weakness, and that he recovered his health by travelling, and excessive diligence in rubbing and chafing his body. Pliny tells us that Annæus Gallio, who had been consul, was cured of a consumption by a sea voyage; and Galen gives us such accounts of the good effects of particular exercises, and they were practised so universally by all classes, that it cannot be supposed but they must have been able to produce great and good effects. However, from an attentive perusal of what we find on this subject in the classical authors, the reader can hardly fail of being convinced that the ancients esteemed gymnastics too highly, just as the moderns too much neglect them; and that in this, as in many other matters, both in medicine and in philosophy, truth lies between the two extremes.

ART. IX.—*On the Preparations of the Indian Hemp, or Gunjah, (Cannabis Indica:) their Effects on the Animal System in Health, and their Utility in the Treatment of Tetanus and other Convulsive diseases.*—By W. B. O'SHAUGHNESSY, M. D., Bengal Army, late Professor of Chemistry and Materia Medica in the Medical College of Calcutta. London, 1843.—8vo. pp. 38.

As this subject has recently attracted much attention in the various journals of the day, both professional and non-professional, we propose giving a view somewhat in detail.

"The narcotic effects of hemp," says Dr. S., "are popularly known in the South of Africa, South America, Turkey, Egypt, Asia Minor, India, and the adjacent territories of the Malays, Burmese, and Siamese. In all these countries hemp is used in various forms, by the dissipated and depraved, as the ready agent of a pleasing intoxication. In the popular medicine of these nations, we find it extensively employed for a multitude of affections, especially those in which spasm or neuralgic pain are the prominent symptoms. But in Western Europe its use, either as a stimulant or as a remedy, is equally unknown. With the exception of the trial, as a frolic, of the Egyptian "hasheesh," by a few youths in Marseilles, and of the clinical use of the wine of hemp by Hahnemann, as shown in a subsequent extract, I have been unable to trace any notice of the employment of this drug in Europe.

"Much difference of opinion exists on the question, whether the hemp so abundant in Europe, even in high northern latitudes, is identical in specific characters with the hemp of Asia Minor and India. The extraordinary symptoms produced by the latter depend on a resinous secretion with which it abounds, and which seems totally absent in the European kind. The closest physical resemblance or even identity exists between both plants; difference of climate seems to me more than sufficient to account for the absence of the resinous secretion, and consequent want of narcotic power in that indigenous in colder countries."

Its botanical characters are thus described:

Assuming, with Lindley and other eminent writers, that the *Cannabis sativa* and *Indica* are identical, we find that the plant is diœcious, annual, about three feet high, covered over with a fine pubescence; the stem is erect, branched, bright green, angular; leaves, alternate or opposite, on long weak petioles; digitate, scabrous, with linear, lanceolate, sharply serrated leaflets, tapering into a long smooth entire point; stipules subulate; clusters of flowers axillary with subulate bractes; males lax and drooping, branched and leafless at base; females erect, simple and leafy at the base. Calyx downy, five parted, imbricated. Stamens five; anthers large and pendulous. Calyx covered with brown glands. Ovary roundish with pendulous ovule, and two long filiform glandular stigmas; achenium ovate, one seeded.—*Vide Lindley's Flora Medica*, p. 299.

The fibres of the stems are long and extremely tenacious, so as to afford the best tissue for cordage, thus constituting the material for one of the most important branches of European manufactures.

The seed is simply albuminous and oily, and is devoid of all narcotic properties.

Its chemical properties are defined as follows:

In certain seasons and in warm countries a resinous juice exudes and concretes on the leaves, slender stems, and flowers; the mode of removing this juice will be subsequently detailed. Separated and in masses it constitutes the *churrus* of Nipal and Hindostan, and to this, the type or basis of all the hemp preparations, are the powers of these drugs attributable.

The resin of the hemp is soluble in alcohol and æther; partially soluble in alkaline, insoluble in acid solutions; when pure, of a blackish grey color; hard at 90°; softens at high temperatures, and fuses readily; soluble in the fixed and in several volatile oils. Its odor is fragrant and narcotic; taste slightly warm, bitterish, and acrid.

The dried hemp plant, which has flowered and *from which the resin has not been removed*, is called GUNJAH. It sells for 1s. 6d. to 2s. for 2 lbs. in the Calcutta bazaars, and yields to alcohol twenty per 100 of resinous extract, composed of the resin (*churrus*), and green coloring matter (*chlorophylle*). Distilled with a large quantity of water or spirit, traces of essential oil pass over, and the distilled liquor has the powerful narcotic odor of the plant. The *gunjah* is sold for smoking chiefly. The bundles of *gunjah* are about two feet long and four inches in diameter, and contain twenty-four plants. The color is dusky green; the odor agreeably narcotic; the whole plant resinous and adhesive to the touch.

The larger leaves and capsules, without the stalks, are called "*bang, subjee*, or *sidhee*." They are used for making an intoxicating drink, for smoking, and in the conserve or confection termed *majoon. Bang* is cheaper than *gunjah*, and, though less powerful, is sold at such a low price that for less than a halfpenny enough can be purchased to intoxicate an "experienced" person.

When used for the purpose of intoxication, the preparations of hemp are as follows:

Sidhee, subjee, and bang (synonymous) are used with water as a drink, which is thus prepared: About three tola weight, 540 troy grains, are well washed with cold water, then dried and rubbed to powder, mixed with black pepper, cucumber and melon seeds, sugar, half a pint of milk, and an equal quantity of water. This is considered sufficient to intoxicate an habituated person. Half the quantity is enough for a novice. This composition is chiefly used by the Mahomedans of the better class.

Another recipe is as follows:—

The same quantity of *sidhee* is washed, dried, and ground, mixed with black pepper, and a quart of cold water added. This is drank at one sitting. This is the favorite beverage of the Hindus who practise this vice, especially the Birjobassies and many of the Rajpootana soldiery.

From either of these beverages intoxication will ensue in half an hour. Almost invariably the inebriation is of the most cheerful kind, causing the person to sing and dance, to eat food with great relish, and to seek aphrodisiac enjoyments. In persons of a quarrelsome disposition it occasions, as might be expected, an exasperation of their natural tendency. The intoxication lasts about three hours, when sleep supervenes. No nausea or sickness of the stomach succeeds, nor are the bowels at all effected; next day there is slight giddiness and much vascularity of the eyes, but no other symptoms worth recording.

Gunjah is used for smoking only; one rupee weight, 180 grains, and a little dried tobacco are rubbed together in the palm of the hand with a few drops of water. This suffices for three persons. A little tobacco is placed in the pipe first, then a layer of the prepared *gunjah*, then more tobacco, and the fire above all.

Four or five persons usually join in this debauch. The hookah is passed round, and each person takes a single draught. Intoxication ensues almost instantly; and from one draught to the unaccustomed, within half an hour; and after four or five inspirations to those more practised in the vice. The effects differ from those occasioned by the *sidhee*. Heaviness, laziness, and agreeable reveries ensue, but the person can be readily roused, and is able to discharge routine occupations, such as pulling the punkah, waiting at table, &c.

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Ameer states that there are seven or eight *majoon* makers in Calcutta; that sometimes, by special order of customers, he introduces stramonium seeds, but never nux vomica; that all classes of persons, including the lower Portuguese, or "Kala Feringhees," and especially their females, consume the drug; that it is most fascinating in its effects, producing extatic happiness, a persuasion of high rank, a sensation of flying, voracious appetite, and intense aphrodisiac desire. He denies that its continued use leads to madness, impotence, or to the numerous evil consequences described by the Arabic and Persian physicians. Although I disbelieve Ameer's statements on this point, his description of the immediate effects of *majoon* is strictly and accurately correct.

Most carnivorous animals eat it greedily, and very soon experience its narcotic effects, becoming ludicrously drunk, but seldom suffering any worse consequences.

In his historical details our author refers to notices of hemp and its uses by the Sanscrit, Arabic, and Persian writers. Much of this, however, seems to partake of the character of fabulous history. Let the reader judge of the following:

In Khorasan, however, it seems that the date of the use of hemp is considered to be far prior to Haider's era. Biraslan, an Indian pilgrim, the contemporary of Cosröes, is believed to have introduced and diffused the custom through Khorasan and Yemen. In proof of the great antiquity of the practice, certain passages in the works of Hippocrates may be cited, in which some of its properties are clearly described, but the difficulty of deciding whether the passages be spurious or genuine, renders the fact of little value. Dioscorides (lib. ij. cap. 169), describes hemp, but merely notices the emollient properties of its seeds; its intoxicating effects must consequently be regarded as unknown to the Greeks prior to his era, which is generally agreed to be about the second century of the Christian epoch, and somewhat subsequent to the life-time of Pliny.

In the narrative of Makrizi we also learn that oxymel and acids are the most powerful antidotes to the effects of this narcotic; next to these, emetics, cold bathing, and sleep; and we are further told that it possesses diuretic, astringent, and especially aphrodisiac properties. Ibn Beitar was the first to record its tendency to produce mental derangement, and he even states that it occasionally proves fatal.

In 780 M. E. very severe ordinances were passed in Egypt against the practice; the Djoncina garden was rooted up, and all those convicted of the use of the drug were subjected to the extraction of their teeth; but in 799 the custom re-established itself with more than original vigor. Makrizi draws an expressive picture of the evils this vice then inflicted on its votaries—"As its consequence, general corruption of sentiments and manners ensued, modesty disappeared, every base and evil passion was openly indulged in, and nobility of external form alone remained to these infatuated beings."

As regards the medicinal properties assigned to hemp by the ancient Arabian and Persian writers, our author is also rich in extracts. He refers to the 35th chapter of the 5th volume of "Rumphius' Herbarium Amboinense," p. 208, ed. Amsterd., A. D. 1695, as containing a long and excellent account of hemp, illustrated by two good plates. Of this article, he presents the subjoined epitome:

Rumphius first describes botanically the male and female hemp plants, of which he gives two admirable drawings. He asssigns the upper provinces of India as its *habitat*, and states it to be cultivated in Java and Amboyna. He then notices very briefly the exciting effects ascribed to the leaf, and to mixtures thereof with spices, camphor and opium. He alludes doubtingly to its alleged aphrodisiac powers, and states that the kind of mental excitement it produces depends on the temperament of the consumer. He quotes a passage from Galen, lib. i. (de aliment. facult.), in which it is asserted that in that great writer's time it was customary to give hemp seed to the guests at banquets as a promoter of hilarity and enjoyment. Rumphius adds, that the Mahomedans in his neighbourhood frequently sought for the male plant from his garden, to be given to persons afflicted with virulent gonorrhœa and with asthma, or the affection which is popularly called "stitches in the side." He tells us, moreover, that the powdered leaves check diarrhœa, are stomachic, cure the malady named *pitao*, and moderate excessive secretion of bile. He mentions the use of hemp smoke as an enema in strangulated hernia, and of the leaves as an antidote to poisoning by orpiment. Lastly, he notices in the two subsequent chapters varieties of hemp, which he terms the *gunjah sativa* and *gunjah agrestis.*

This was the amount of preliminary information possessed by our author, when he entered upon his experiments to determine its application to man as a remedial agent.

There was sufficient to show that hemp possesses, in small doses, an extraordinary power of stimulating the digestive organs, exciting the cerebral system, of acting also on the generative apparatus. Larger doses, again, were shown by the historical statements to induce insensibility or to act as a powerful sedative. The influence of the drug in allaying pain was equally manifest in all the memoirs referred to. As to the evil sequelæ so unanimously dwelt on by all writers, these did not appear to me so numerous, so immediate, or so formidable, as many which may be clearly traced to over-indulgence in other powerful stimulants or narcotics—viz. alcohol, opium, or tobacco.

The dose in which the hemp preparations might be administered, constituted, of course, one of the first objects of inquiry. Ibn Beitar had mentioned a *direm*, or forty-eight grains of *churrus;* but this dose seemed to me so enormous, that I deemed it expedient to proceed with much smaller quantities. How fortunate was this caution, the sequel will sufficiently denote.

An extensive series of experiments on animals was in the first place undertaken, among which the following may be cited:—

Expt. 1.—Ten grains of Nipalese *churrus*, dissolved in spirit were given to a middling sized dog. In half an hour he became stupid and sleepy, dozing at intervals, starting up, wagging his tail as if extremely contented; he ate some food greedily; on being called to he staggered to and fro, and his face assumed a look of utter and helpless drunkenness. These symptoms lasted about two hours, and then gradually passed away; in six hours he was perfectly well and lively.

Expt. 2.—One drachm of *majoon* was given to a small sized dog; he ate it with great delight, and in twenty minutes was ridiculously drunk; in four hours his symptoms passed away, also without harm.

Expts. 3, 4, and 5.—Three kids had ten grains each of the alcoholic extract of *gunjah.* In one no effect was produced; in the second there was much heaviness, and some inability to move; in the third a marked alteration of countenance was conspicuous, but no further effect.

Expt. 6.—Twenty grains were given, dissolved in a little spirit, to a dog of very small size. In a quarter of an hour he was intoxicated; in half an hour he had great difficulty of movement; in an hour he had lost all power over the hinder extremities, which were rather stiff but flexible; sensibility did not seem to be impaired, and the circulation was natural. He readily acknowledged calls by an attempt to rise up. In four hours he was quite well.

In none of these and several other experiments was there the least indication of pain, or any degree of convulsive movement observed.

It seems needless to dwell on the details of each experiment; suffice it to say that they led to one remarkable result—that while carnivorous animals and fish, dogs, cats, swine, vultures, crows, and adjutants, invariably exhibited the intoxicating influence of the drug, the graminivorous, such as the horse, deer, monkey, goat, sheep, and cow, experienced but trivial effects from any dose we administered.

Encouraged by these results, no hesitation could be felt as to the perfect safety of giving the resin of hemp an extensive trial in the cases in which its apparent powers promised the greatest degree of utility.

The first cases selected were two of acute rheumatism and one of the chronic form; and in one of these, the most unequivocal symptoms of *catalepsy* were developed by the influence of this narcotic.

We raised him to a sitting posture, and placed his arms and limbs in every imaginable attitude. A waxen figure could not be more pliant or more stationary in each position, no matter how contrary to the natural influence of gravity on the part.

To all impressions he was meanwhile almost insensible; he made no sign of understanding questions; could not be aroused. A sinapism to the epigastrium caused no sign of pain. The pharynx and its coadjutor muscles acted freely in the deglutition of the stimulant remedies which I thought it advisable to administer, although the manifest cataleptic state had freed me altogether of the anxiety under which I before labored.

The second patient had meanwhile been roused by the noise in the ward, and seemed vastly amused at the strange aspect and the statue-like attitudes in which the first patient had been placed, when on a sudden he uttered a loud peal of laughter, and exclaimed that "four spirits were springing with his bed into the air." In vain we attempted to pacify him; his laughter became momentarily more and more uncontrollable. We now observed that the limbs were rather rigid, and in a few minutes more his arms or legs could be bent, and would remain in any desired position. A strong stimulant drink was immediately given, and a sinapism applied. Of the latter he made no complaint, but his intoxication led him to such noisy exclamations that we had to remove him to a separate room; here he soon became tranquil, his limbs in less than an hour gained their natural condition, and in two hours he represented himself to be perfectly well and excessively hungry.

The first patient continued cataleptic till one A. M., when consciousness and voluntary motion quickly returned, and by two A. M., he was exactly in the same state as the second patient.

The third man experienced no effect whatever, and on further inquiry it was found that he was habituated to the use of *gunjah* in the pipe.

On the following day it gave me much pleasure to find that both the individuals above mentioned were not only uninjured by the narcotic, but much relieved of their rheumatism; they were discharged quite cured in three days after.

The next case was one of *hydrophobia*. Two grains of hemp resin, in a soft pillular mass, were ordered every hour; and at the sixth dose, he fell asleep, and had some hours' rest. But on the following morning, tortured by thirst, he again attempted to drink, and again ensued "the indescribable horrors of the paroxysm."

Four days thus passed away, the doses of hemp being continued. When he fell asleep, on waking the paroxysms returned, but were again almost immediately assuaged as at first. Meanwhile, purgative enemata were employed, and he partook freely of solid food, and once drank water without the least suffering. But about three P. M. of the fifth day he sunk into a profound stupor, the breathing slightly stertorous; in this state he continued, and without further struggle death terminated his sufferings at four A. M. on the 27th of November.

Reviewing the preceding summary of this interesting case, it seems evident that at least one advantage was gained from the use of the remedy—the awful malady was stripped of its horrors; if not less fatal than before, it was reduced to less than the scale of suffering which precedes death from most ordinary diseases.

While this case was under treatment, the interest excited among the pupils of the school, induced them to try experiments on one another.

In one pupil, Dinonath Dhur, a retiring lad of excellent habits, ten drops of the tincture, equal to a quarter of a grain of the resin, induced in twenty minutes the most amusing effects I ever witnessed. A shout of laughter ushered in the symptoms, and a transitory state of cataleptic rigidity occurred for two or three minutes. Summoned to witness the effects, we found him enacting the part of a Rajah giving orders to his courtiers; he could recognise none of his fellow students or acquaintances; all to his mind seemed as altered as his own condition; he spoke of many years having passed since his student's days; described his teachers and friends with a piquancy which a dramatist would envy; detailed the adventures of an imaginary series of years, his travels, his attainment of wealth and power; he entered on discussions on religious, scientific, and political topics, with astonishing eloquence, and disclosed an extent of knowledge, reading, and a ready apposite wit, which those who knew him best were altogether unprepared for. For three hours and upwards he maintained the character he at first assumed, and with a degree of ease and dignity perfectly becoming his high situation. A scene more interesting it would be difficult to imagine. It terminated nearly as suddenly as it commenced, and no headache, sickness, or other unpleasant symptom followed the innocent excess.

It was tried likewise in several cases of *epidemic cholera*, which was then prevailing.

The durwan of the college, an athletic Rajpoot, was attacked, and came under my treatment after he had been ill seven hours; he was pulseless, cold, and in a state of imminent danger, the characteristic evacuations streaming from him without effort. Half a grain of the hemp resin was given, and in twenty minutes the pulse returned, the skin became warm, the purging ceased, and he fell asleep. In an hour he was cataleptic, and continued so for several hours. In the morning he was perfectly well and at his duty as usual.

This passage was written in 1838, when our author was not entirely satisfied of the value of hemp in cholera; but subsequent experience confirmed his favorable opinion, and in 1843, he writes thus:

I know no remedy equal to it as a general and steady stimulant when given to *Europeans* in half drachm doses during the tractable stage of this disease. I have known the pulse and heat return and the purging checked by a single dose. It allays vomiting much more certainly than the opium preparations, and is not more likely than these to lead to cerebral congestion on the cessation of cholera symptoms. The cheering effect on the patient's spirits is not the least benefit this remedy confers.

We now come to its use in *Tetanus*,—an affection in which Dr. O'S. regards the powers of the remedy to be satisfactorily and incontrovertibly established. As these cases are of more than ordinary importance, we will present several in detail:

The first case of this disease treated by hemp was that of Ramjam Khan, aged thirty, admitted to the College Hospital on the 13th of December, 1838, for a sloughing ulcer on the back of the left hand. Five days previously a native empiric had applied a red hot *gool* (the mixture of charcoal and tobacco used in the hookah) to the back of the left wrist, as a remedy for chronic dysentery and spleen. The patient's brother was similarly cauterised on the same day. In both sloughing took place down to the tendons. Symptoms of tetanus occurred on the 24th of December. The brother, who had refused to avail himself of European aid, had been seized with tetanus at his own home four days previously, and died after three days' illness. On the 26th December spasms set in, and recurred at intervals of a few minutes; the muscles of the abdomen, neck, and jaws became firmly and permanently contracted. Large doses of opium with calomel having been administered for some hours without the least alleviation of symptoms, and his case having, on consultation, been pronounced completely hopeless, I obtained Mr. Egerton's permission to subject the poor man to the trial of the hemp resin. Two grains were first given at half past two P. M., dissolved in a little spirit. In half an hour the patient felt giddy; at five P. M., his eyes were closed, he felt sleepy, and expressed himself much intoxicated.

He slept at intervals during the night, but on waking had convulsive attacks.

On the 27th, two grains were given every third hour (a purgative enema was also administered, which operated three times); the stiffness of the muscles became much less towards evening, but the spasms returned at intervals as before; pulse and skin natural.

28. Improved; is lethargic but intelligent; spasms occasionally occur, but at much longer intervals, and in less severity.

28. Dose of hemp increased to three grains every second hour. Symptoms moderating.

30. Much intoxicated; continues to improve.

January 1, 1839. A hemp cataplasm applied to the ulcer, and internal use of remedy continued. Towards evening was much improved; spasms trivial; no permanent rigidity; had passed two *dysenteric stools.*

2. Morning report: Had passed a good night, and seems much better. Evening report: Doing remarkably well.

3, 4, and 5. Continues to improve. Hemp resin in two grain doses every fifth hour.

6. Five P. M. Feverish; skin hot; pulse quick; all tetanic symptoms gone; passing mucous and bloody stools. Leeches to abdomen; a starch and opium enema with three grains of acetate of lead every second hour; tepid sponging to the body; hemp omitted.

7. Six A. M. Still feverish; stools frequent, mucous; abdomen tender on pressure; no appetite; the ulcer sloughy, ragged, and offensive. Opium and acetate of lead continued; abdomen leeched; sore dressed with water. At noon there was a slight rigidity of abdominal muscles. Hemp resumed. At three P. M., became intoxicated and hungry; ulcer extremely dry, foul, and abominably fœtid; towards evening rigidity ceased. Hemp discontinued.

From this day the tetanus may be considered to have ceased altogether, but the dysenteric symptoms continued, despite of the use of opium and acetate of lead; the ulcer, too, proved utterly intractable. Some improvement in the dysenteric symptoms occurred from the 10th to the 15th, when natural stools were passed. He seemed gaining strength, but the wound was in no wise improved; the slough, on the contrary, threatened to spread, and two metacarpal bones lay loose in the centre of the sore. On consultation it was agreed to amputate the arm, but to this the patient peremptorily objected. The mortification now spread rapidly, and, to our infinite regret, he died of exhaustion on the night of the 23d of January.

An unprejudiced review of the preceding details exhibits the sedative powers of the remedy in the most favorable light; and, although the patient died, it must be remembered that it was of a different disease, over which it is not presumed that the hemp possesses the least power.

The *second case* was that of Chunoo Syce (treated by Mr. O'Brien, at the Native Hospital), in whom tetanus supervened on the 11th of December, after an injury from the kick of a horse. After an ineffectual trial of turpentine and castor-oil in large doses, two-grain doses of hemp resin were given on the 16th of December. He consumed in all 134 grains of the resin, and left the hospital cured on the 28th of December.

Third case.—Huroo, a female, aged twenty-five, admitted to the Native Hospital on the 16th of December; had tetanus for the three previous days, the sequel of a cut on the left elbow received a fortnight before. Symptoms violent on admission. Turpentine and castor-oil given repeatedly without effect; on the 16th and 17th, three grains of hemp resin were given at bed-time. On the morning of the 18th she was found in a state of complete catalepsy, and remained so until evening, when she became sensible, and a tetanic paroxysm recurred. Hemp resumed, and continued in two grain doses every fourth hour. She subsequently took a grain twice daily till the 8th of February, when she left the hospital apparently quite well.

Mr. O'Brien has since used the hemp resin in five cases, of which four were admitted in a perfectly hopeless state. He employed the remedy in *ten grain doses* dissolved in spirit. The effect he describes as almost immediate relaxation of the muscles and interruption of the convulsive tendency. Of Mr. O'Brien's seven cases four have recovered.

In the Police Hospital of Calcutta, the late Dr. Bain has used the remedy in three cases of traumatic tetanus, of these one has died and two recovered.

* * * * * * * * *

The preceding facts are offered to the professional reader with unfeigned diffidence as to the inferences I feel disposed to derive from their consideration. To me they seem unequivocally to show that when given boldly and in large doses, the resin of hemp is capable of arresting effectually the progress of this formidable disease, and in a large proportion of cases, of effecting a perfect cure.

In these affections, Dr. O'S. considers no trial of the drug at all conclusive, unless pushed to the extent of inducing stupor and insensibility.

As regards its use in *Delirium Tremens,* our author is equally sanguine as to its remediate virtues.

I have given the tincture of hemp an extensive trial in this disease, and have had much reason to be gratified with its effects. In action it resembles opium and wine, but is much more certain than these remedies. I have no hesitation in saying, that in the cases in which the opium treatment is applicable, hemp will be found far more effectual. The changed state of mind it produces is truly wonderful. From the appalling terror which generally predominates, the patient soon passes into a state of cheerfulness, often of boisterous mirth, and soon sinks into a happy sleep. Of course there are many cases in which this, or any other narcotic should not be employed.

The following is our author's formula for making this preparation :

The *resinous extract* is prepared by boiling the rich, adhesive tops of the dried *gunjah* in spirit (sp. gr. 835), until all the resin is dissolved. The tincture thus obtained is evaporated to dryness by distillation, or in a vessel placed over a pot of boiling water. The extract softens at a gentle heat, and can be made into pills without any addition.

The *tincture* is prepared by dissolving the extract in spirit of 835° density.

Doses, &c.—In *tetanus* a drachm of the tincture every half hour until the paroxysms cease, or catalepsy or narcotism is induced. In *hydrophobia* I recommend the resin in soft pills, to the extent of ten to twenty grains to be chewed by the patient, and repeated according to the effect. In *cholera,* thirty drops of the tincture every half hour will be often found to check the vomiting and purging, and bring back warmth to the surface. My experience would here lead me to prefer *small* doses of the remedy in order to excite rather than narcotise the patient.

The question now arises—Has the profession in this therapeutic agent gained an anti-convulsive remedy, of truly great value ? Our author, with whom we have recently had the pleasure of meeting in this city, certainly entertains a conviction of the affirmative. But, as new medicines have often cheated the most circumspect investigators a proper exercise of caution surely demands the frequent repetition of these experiments. In medicine we find that fashion is not without its influence and that a remedy extolled by one generation is wholly neglected by the next. Be it, however, real or fictitious, as regards its ultimate and permanent value, there can surely be no difference of opinion in relation to the degree of credit that justly belongs to Dr. O'Shaughnessy for his indefatigable researches.

From a statement made by Mr. Ley, at a recent meeting of the Royal Medico-Botanical Society, it appears that the Indian hemp *(Cannabis Indica,)* and the European variety, *(Cannabis Sativa,)* are identical in all respects with the exception that the latter is almost deficient in the resin upon which its narcotic and anti-convulsive powers depend. Mr. Ley also reports several cases in the Provincial Medical Journal, in which the anti-convulsive powers of this remedy were decidedly manifested; but Dr. Pereira, who gives an account of it in the last edition of his Materia Medica, seems to think that its powers have been overrated. In his hands, those striking effects described by Dr. O'Shaughnessy did not follow,—a failure that he attributes, in some measure, to a deterioration of the drug, resulting from its mode of preparation, perhaps in its passage from India. Let it, however, be further and fairly tested by experiment.

ART. X.—*Report upon the Effects of Poisonous Smoked Beef, by* DRS. M. POST, A. E. HOSACK, and J. R. CHILTON. Document No. 43. Board of Aldermen, Oct. 24, 1842., pp. 26.

Having completed the investigations, directed by the Municipal Authorities, relative to the effects produced by poisonous smoked beef, the Committee present a Report highly interesting in all its detail. They state—

That, on the 24th of December last, seven persons, members of a family residing in this city, were suddenly attacked with alarming symptoms under the following circumstances:

About nine hours after having partaken of an ordinary quantity of smoked beef, obtained from a neighboring grocer, pain and uneasiness were experienced at the præcordial region, which, extending to the back and loins, were only temporarily relieved by the dejections which followed: vomiting soon supervened, attended with great thirst and a burning sensation at the pit of the stomach; indeed, the irritability of this organ soon became so great, that no substance, either as food or medicine, could be retained by it for an instant. These symptoms soon assumed the most aggravated form, nature being taxed to the utmost to eliminate from the system the noxious matter with which it was infected. As a consequence of this excessive action, the greatest prostration followed,—the functions of the nervous, the muscular, and the digestive systems were much impaired,—and so protracted has been the period of convalescence, that some of the patients who were more severely attacked, still suffer from the effects of this indisposition.

The primary symptoms being those of ordinary cholera, did not excite in the minds of the persons affected, any suspicion as to the cause of the illness until being closely interrogated by the attending physician, Dr. Fayette Cooper, the fact was elicited that they had each partaken of a quantity of smoked beef on the evening preceding the morning on which they were attacked. Similar instances soon multiplying in other families, amounting in all to forty-three,* an interchange of visits took place among the attending physicians; and the fact being ascertained that each patient affected had used the same article, it was not doubted that the beef in question was impure, unhealthy, or contained some poisonous principle.

One case which occurred in the practice of Dr. A. T. Hunter, has proved fatal. The patient, a little girl, aged six years, had previously been subject to attacks of visceral inflammation, from which she recovered under the operation of appropriate remedies. In the present instance, she partook of the unhealthy smoked beef, in common with other members of the family, who in consequence were all seized with severe illness, manifested by the symptoms described above. They were all restored to health, with the exception of the little girl. In her case there was no remission of the symptoms, and she died on the fifteenth day from the commencement of the attack. A post mortem examination being made, the blood was found not coagulated,—it followed the knife freely, as in instances of death from drowning, lightning, &c.; the mesentery was enlarged; the mucous coat of the ileum exhibited a highly inflamed appearance, which was confined to a space of about six inches in length, and embraced the entire calibre of the intestine. The stomach, brain, and other organs, appeared not to have suffered any lesion.

That the disease thus described existed independently of any local causes, is obvious from the fact that it appeared in various and remote districts of the city, without any apparent chain of connection, save the common origin of the poisonous smoked beef.

Portions of this beef were subjected to various modes of chemical analysis by Dr. Chilton; but as this experienced chemist was not able to detect the presence of any mineral or vegetable poison, it was determined by the committee to institute a series of observations as regards the effects of this same poisonous beef upon animals; and these experiments, which were performed under the immediate inspection of the then resident Physician, Dr. John W. Francis, led to the following conclusions:

First. That the beef contained no mineral or vegetable poison.

Second. That when eaten it produced aggravated symptoms of disease in the animals.

Third. That a decoction made from the infected beef, when thrown into the circulation, produced death in about three hours and a half.

Fourth. That a similar preparation, made from sound beef, produced no marked signs in the animal experimented on.

Fifth. That the poisonous principle was not resident in the fat of the beef, which is found to be the case when this principle is developed by putrefaction.

Sixth. That putrefaction in different stages produces no effect upon the animals.

The Committee thus arrive at the "irresistible conclusion," that "the animal from which the beef in question was taken, had been affected with some disease, rendering its flesh highly poisonous as food." Now we feel constrained to protest against the *irresistibleness* of this conclusion, on the ground that it is *not impossible* that the animal, when killed, was in a normal condition, and that the poisonous nature of its flesh is due to changes which occurred subsequently. At the same time, we are free to say that we regard the inference of the Committee as good perhaps, as any other.

The Committee next present an excellent synoptical view of animal poisons; then follows a description of a remarkable endemic peculiar to the western portion of the United States, being seldom or never observed east of the Alleghanies. This disease is known by the appellation of *Milk Sickness* or *Trembles.* The former name has its origin in the circumstance that the disease is frequently communicated to man by the use of the milk of an infected animal, though it will be as readily produced by eating the flesh; and the latter name arose from the symptoms of a *trembling motion* of the voluntary muscles manifested in cattle. We deem, however, no extended description here necessary, as the character of this singular affection is well known; but as regards its etiology, nothing certain has been determined since it was first noticed by the French missionary, Father Hennepin. Suffice it to add, that among the early immigrants, whole communities, on account of the prevalence of this malady in a particular locality, which is generally distinctly circumscribed, were often compelled to seek another; and even, at this day, those who venture within the boundaries of an infected district, are constrained, as a condition of their residence, to abstain from the flesh of the cattle living within the same limits, as well the milk and its preparations. In some of these infected districts, it is said that the inhabitants, with a recklessness of human life that seems incredible, carry the butter and cheese, which they dare not themselves venture to eat, to the markets of the western cities; and that thus are induced morbid symptoms and even death, regarded by the unsuspecting medical attendant as some new or anomalous form of disease. Moreover, as the disease would seem often to lie a long time dormant, cattle may also be driven a considerable distance with the disease lurking in them, that is, until developed by over exertion, or some other cause perhaps accidental.

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* Seven of these cases occurred in the practice of Dr. Green, of Hudson street.

The Committee continue—

> From the inquiries which we have made, we have ascertained that immense droves come from the west to supply our markets: they are driven across the mountains and reach New York from the south, hence they are called by dealers, "Southern Cattle." Many of these cattle become diseased on the route, and are then exchanged for the pasturage of the herd. In this condition they are frequently slaughtered by the farmers, the flesh sent to this city and exposed for sale, producing in persons, who make use of it, symptoms of aggravated cholera morbus. Physicians attest that they have frequently met with such cases, which it was impossible to account for in any other way.
>
> Numerous instances occur, in which the butchers of our city have found the viscera of animals slaughtered, in a highly diseased condition; in some cases, being almost disorganized. The liver, especially in southern or western cattle, is very liable to be thus affected. The undersigned, however, avail themselves of this occasion, to say that no instance has occurred to them, in which this class of our citizens have ever permitted such beef to be placed upon their stalls, in our markets; but, on the contrary, they believe them solicitous to protect their customers from a fraud, so dangerous in its consequences, and so much in opposition to their own true interests.

So invariably are the livers of the cattle west of the Alleghanies found in a diseased condition, that this viscus is always cast away, it being actually unknown as an article of diet.

Did our limits permit, it would afford us pleasure to make more extended quotations from this document, deserving, as it does, a more permanent record than the pages of a pamphlet.

The Committee, in conclusion, urge upon the constituted authorities the absolute necessity of adopting some method which shall in future protect our citizens from occurrences of so dangerous a character:

> For this purpose they most respectfully propose the erection, by the city, of one or more extensive abattoires or slaughter buildings, similar in plan to those erected by the French government in 1809; and they would also suggest as an improvement to that plan, the appointment, by the Common Council, of the requisite number of competent persons, whose duty it shall be to inspect all animals slaughtered for the use of the city.
>
> By this arrangement, they are persuaded that the citizens would gain greatly by the security they would possess that the food consumed by them was pure and healthy; by the cleanliness which would be observed in the establishments; by the removal of the buildings which at present constitute offensive nuisances; and in the certainty that the system would be burdensome to none, but, on the contrary, would recommend itself on the score of convenience and economy.

We approve of these regulations in the main; but if it is expected from these "competent persons" to decide whether cattle have been injured by overheating, or whether they labor under "milk sickness," we pity the plight of these *health-officers*, who would have a question to decide even more complex than that of a Rondout fever.

Upon this subject, we find in Pereira on "Food and diet," the following remarks:

> It deserves to be specially noticed, with regard to animal foods in general, that when obtained from animals affected with disease at the time of their death, they are always dangerous, and have in some cases proved fatal.*
>
> Moreover, animal foods, even if procured from perfectly healthy individuals, sometimes suffer a peculiar kind of decay or putrefaction, by which they acquire poisonous properties. Thus, *Sausages* made of the flesh, viscera, or blood of animals, and cured by smoking, have sometimes acquired, by keeping, highly deleterious qualities, which in many cases, has been attended with fatal results. Buchner ascribes the effects to the presence of a peculiar fatty acid, which has been termed *botulinic acid*, (*Wurst-fett-saure.*) *Bacon*, and probably other kinds of cured meat, *Ham-pie*, *Cheese*, *Milk*, *Goose-grease*, (see p. 128,) *Smoked Sprats*, *Pickled Salmon*, *Kipper*, or *Smoked Salmon*, (see p. 136,) and the decayed flesh of quadrupeds, (as veal and beef,) have also at times produced effects analagous to those caused by the sausages above alluded to.
>
> The cause of the poisonous quality of those animal foods is involved in complete obscurity. Liebig has offered an ingenious but gratuitous hypothesis concerning it. The sausages, he says, are in a peculiar state of putrefaction; and in this condition "exercise an action upon the organism, in consequence of the stomach, and other parts with which they come in contact, not having the power to arrest their decomposition; and entering the blood in some way or other, while still possessing their whole power, they impart their peculiar action to the constituents of that fluid.

Among the cattle of our western country, and especially of Ohio, there are frequently found in the liver the most extraordinary heterologous formations. This viscus is often discovered completely studded with osseous sacs, containing a dark grumous fluid, in which lives a species of entozoa, having physical characters almost identical with the native leech. Of these leeches, as many as fifty or sixty may be found in a single liver, so that not a cubic inch of normal liver remains. A friend who has investigated this curious phenomenon, promises us a description,

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* Tiedemann, *Untersuchungen über das Nahrungs-Bedürfniss*, &c. pp. 119-120; also, *Lond. Med. Gazette*, Oct. 21, 1842.

Art. XI.—*Minor Surgery: or Hints on the every-day Duties of the Surgeon.*—By Henry H. Smith, M. D., Lecturer on Minor Surgery, etc. Illustrated by Engravings. Ed. Barrington and Geo. D. Haswell: Philadelphia, 1843. 18mo. pp. 303.

We venture to predict for this little volume a successful career, for we have here a *means* adapted to an *end*. It is admitted, for instance, on every hand, that there is a large class consisting of medical students and young practitioners, who, in consequence of the shortness of the period usually allotted to a course of lectures on Surgery, find themselves deficient in the amount of knowledge required for daily practice. This constitutes the *end*. On the other hand, we have here a volume strikingly adapted to supply these wants, consisting of the *methods of Dressing and the Minor Surgical Operations;* and this forms the *means*.

In executing this task, Dr. Smith tells us that "he has drawn freely on the works of MM. Velpeau, Gerdy, Mayor, and others, as well as upon many practical details obtained from the distinguished Surgeons of the Pennsylvania Hospital, during a residence under them in that institution."

The work is divided into four parts. The first is "*On the Preparation and Application of Dressings*," which embraces a description of the materials and their mode of application, such as lint, compresses, adhesive strips, setons, poultices, plasters, irrigation, rules for dressing, etc. Part second consists of three sections: 1. the "*Preparation and Application of the Bandage*," in which all the processes of using the simple bandage or roller are detailed; 2. the "*Composition and Application of the Compound Bandage, or the Bandage Proper*;" and 3. "*Mayor's Handkerchief System*." Part third is devoted to a detail of "*Apparatus for Fractures and Dislocations*;" and here are furnished to the student all the various inventions and modifications of bandages and apparatus, more especially by the American Surgeons, Physic, Dorsey, Gibson, Barton, Coates, Hartshorn, and N. R. Smith. Part fourth comprises the "*Minor Surgical Operations*," such as phlebotomy, arteriotomy, leeching, cupping, blistering, setons, issues, moxa, vaccination, injections, and tooth-drawing.

Art. XII.—*A Treatise on Protracted Indigestion and its Consequences; being the Application to the Practical Department of Medicine of the Results of an Inquiry into the Laws of the Vital Functions, etc.* By A. P. W. Philip, M. D., F. R. S, London and Edinburgh, etc. Philadelphia: Lea & Blanchard. 1843. 8vo. pp. 240.

This work, the author, on his retirement from the medical profession, addressed both to the members of that profession, and to the well-educated public, particularly parents: and here we find a man, who once enjoyed an enviable professional reputation, descending in his old age, to the unprofessional act of making an appeal to the "intelligent public," from the decision of his equals. Notwithstanding his favorite theories have died away as regards the profession, there is a tone of self-satisfaction manifested throughout the book that is truly surprising. As an evidence of his capability for the execution of the complicated labor before us, he refers to the circumstances that he had an extensive experience of between thirty and forty years in the practice of medicine, and that he had devoted, during the same time, much study to the investigation of the laws of our frame, as appears from the fact of his having presented twelve papers to the Royal Society of London, "and published in the Philosophical Transactions, between the beginning of the year 1815, and the end of 1836, four editions of my Inquiry into the Laws of the Vital Functions, and seven editions of my Treatise on Indigestion." But all this merely proves that he has outlived his theories.

Every practitioner of any experience will at once perceive that the following observations refer to a class of obscure affections, which invariably baffle the efforts of the most skilful.

> All medical men of any standing must have seen instances in which, after long-continued and severe suffering, death has rapidly ensued, to their own surprise, as well as that of the friends of the sufferer, without their being able to explain satisfactorily why symptoms, which do not usually indicate such immediate danger, were the only symptoms which immediately preceded the fatal termination. From what is stated in this volume, I trust it will appear in what manner this and other evils which I shall have occasion to point out, may be referred to the physiological errors at present influencing the practical department of our profession, and by what means these evils may be corrected.
>
> What are commonly called bilious complaints, as well as all other morbid states affecting the brain and spinal marrow, are, strictly speaking, constitutional affections, which, in their various and more severe forms, often degenerate into some of the most fatal diseases to which we are subject; and which are rendered doubly dangerous, as will appear from the relation which subsists between the different stages of such cases, from mistaken views which have arisen respecting some of the most influential laws of our frame.
>
> As the object of this publication is to explain the nature and check the great fatality of such cases, both these subjects are more fully considered in the following pages than in any other of my publications; and as it is necessary for these purposes to enter more fully into the inferences from my physiological investigations than I had previously done, it is on this account that the present volume is addressed to the members of the medical profession, as well as to the public.
>
> The first and only public attempt I have made to enter on the whole of the practical part of the subject was in the fourth edition of my Inquiry into the Laws of the Vital Functions, published in 1839; for although I had been long acquainted with the physiological facts, it was not till within the last ten or twelve years that I saw the whole of their bearing on the practical department of our profession, and consequently still later before I had that direct practical proof of the accuracy of my inferences which I considered necessary to entitle me to lay the results before the public. In the present treatise I have been enabled to enter on them much more fully than in that just mentioned, both from additional experience and reflection, and because the object of the present publication is wholly of a practical nature.

In the preface and first part of the work, the author endeavors to show that certain physiological errors prevail in the profession, which are the great obstacles to the universal adoption of his views; and in the second part, he dwells at length upon the nature and tendencies of indigestion. We deem it unnecessary to enter into the peculiarities of his pathological views; but, however much we may disagree with the author in his doctrines, we cannot but regard his results, in a practical point of view, as valuable.

There is scarcely any disease upon which our knowledge is less precise than that of indigestion, in its various modifications and complications; and to him who may succeed in throwing a single ray of light upon these obscure points of pathology and therapeutics, the glories of immortality are justly due.

Art. XIII.—*Elements of Chemistry, including the Applications of the Science in the Arts. With numerous illustrations.* By Thomas Graham, F. R. S. L. and E. D., Prof. of Chemistry in University College, London; President of the Chemical Society; Corresponding Member of the Royal Academy of Science of Berlin and Munich, &c. With Notes and additions by Robert Bridges, M. D., Prof. of General and Pharmaceutical Chemistry, in the Philadelphia College of Pharmacy, and one of the Editors of the American Journal of Pharmacy. Philadelphia: Lea & Blanchard. 1843. 8vo. pp. 749.

We congratulate the student of chemistry in having thus presented to him another exposition of chemical science—one equal to any of its brotherhood. We do not of course propose to give an analysis of an elementary work; but, in saying that the talents of the author are of a high order, that his style is comprehensive, that his facts are judiciously arranged, and that the work fully represents the progress of the science up to the date of its publication, we think that we have said all that words can express in favor of a book.

The following extract will serve to show its general arrangement:

> The important bearings of the laws of heat, particularly in reference to the physical condition of matter, have led to their consideration before the chemical properties of substances, in this as in most other elementary treatises on chemistry. Light is then shortly considered, chiefly in reference to its chemical relations. The principles of its Nomenclature, in which, compared with many sciences, chemistry has been highly fortunate, are then explained, together with the Symbolical Notation in use, by means of which the composition of highly compound bodies is expressed with the same palpable distinctness, which in arithmetic attends the use of figures, in place of words, for the expression of numerical sums.
>
> A considerable section of the work is then devoted to the consideration of the fundamental doctrines of chemistry, under the heads of Combining Proportions, Atomic Theory, Doctrine of Volumes, Isomorphism, Isomerism, Constitution of Salts, and Chemical Affinity, including the propagation of this action through metallic and saline media, in the voltaic circle.
>
> The materials of the Inorganic world are then described, under the two divisions of non-metallic elements and their compounds, and metallic elements and their compounds.
>
> Lastly, the numerous compounds of the Organic world are discussed. In this department, a most extraordinary progress has been made within a very short period. The study of organic chemisty has also been much facilitated by classification, and the arrangement under compound Radicals, introduced by M. Liebig.

It was now obvious that the science was sufficiently advanced to be applied to the elucidation of the great questions of vegetable and animal physiology. A condensed view is given of the new discoveries in the former department, and also of the important conclusions respecting the animal functions of respiration and digestion, results which are entirely new, and now enter for the first time into a systematic work on Chemistry.

Art. XIV.—*The Retrospect of Practical Medicine and Surgery, being a half-yearly Journal, containing a retrospective view of every discovery and practical improvement in the Medical Sciences.* Edited by W. Braithwaite, Surgeon to the Leeds General Eye and Ear Infirmary, etc.

This periodical, which is re-published in this city by Adee & Eastabrook, consists of extracts and analyses from the different medical journals published in Europe and America. As regards the estimation in which we hold it, it is sufficient to say that our department of "Foreign Medical Intelligence" is seldom without an extract from its pages.

Art. XV.—*An Introductory Address to the Students of Castleton Medical College, at the commencement of a course of Lectures on Opthalmic Anatomy and Surgery, for* 1843. By Alfred C. Post, M. D.

This address, published by the class, dwells upon the importance of medicine as a science, and urges upon the student the value of the collateral branches of human knowledge, such as botany and geology, mathematics, logic, and rhetoric, with moral and intellectual philosophy, as well as an acquaintance with ancient and modern languages. In regard to the attendance on public lectures, Dr. Post says:

> It would appear almost unnecessary to speak of the advantages of this mode of receiving instruction, as they are so generally acknowledged. But as there are some individuals who are disposed to decry public lectures, and to detract from their importance in a system of medical education, it seems to me proper to enumerate some of their advantages. In the first place, oral instruction excites a far higher interest in the minds of the students than can ordinarily be created by the perusal of books. Information communicated in this manner, makes a deep impression on the mind, and strongly fixes itself upon the memory. Secondly, a lecturer saves his hearers a large amount of time and labor, and brings before them, in a short time, the accumulated results of long-continued and laborious investigations. Thirdly, a lecturer is enabled to combine demonstration with his instructions, and thus to address himself not only to the ear, but also to the eye, and frequently to some of the other senses. Entertainment is in this manner connected with the acquisition of knowledge; the study becomes attractive, and a desire for improvement is awakened in the

mind. Fourthly, a lecturer is able, by familiar and varied illustrations, to present his subject in such a light that it can readily be seen in all its most important bearings, while it would be extremely difficult to convey a clear idea of the same by any written discourse. So fully sensibly are the most enlightened governments of the advantages accruing from lectures on the different branches of medical science, that an attendance on such lectures is required by law as a necessary step in order to the attainment of the highest honors and privileges of the profession. But notwithstanding the importance of this mode of communicating and receiving instruction, it ought not to be relied on to the exclusion of the other methods which have been alluded to. A person who derives his professional knowledge entirely from lectures, is apt to be superficial and contracted in his views; he is incapable, in general, of making a correct practical application of the knowledge which he possesses; and he is exceedingly prone to follow the opinions of others without testing their truth or falsehood. He is, in fact, "addictus jurare in verba magistri." It is of the highest importance, then, that private reading and reflection should accompany the attendance upon public lectures. By this means, erroneous impressions are corrected, and the mind is enabled to dwell on subjects which are obscure and difficult of comprehension, until, by continued attention, the obscurity is removed, and the difficulty is overcome. By this means also, the student is enabled to take a comprehensive survey of the opinions of different writers, and of the numerous facts which are recorded to illustrate their several views; and thus his mind is enlarged and his judgment matured, and he is prepared, with more energy and with better prospects of success, to enter upon the path of original investigation.

PART THIRD.

1.

Foreign Medical Intelligence.

ANATOMY AND PHYSIOLOGY.

1. *On the Cause of Erect Vision from an inverted Image on the Retina.*—Many solutions of it have been attempted; but they are for the most part rather specious than really satisfactory. That which has been of late years the most in vogue, is founded upon what was styled the Law of Visible Direction, which has been supported by Sir D. Brewster, and other eminent philosophers. This law affirms, that every object is seen in the direction of the perpendicular to that point of the retina on which its image is formed; or, in other words, that, as all the perpendiculars to the several points of the inner surface of a sphere meet in the centre, the line of direction of any object is identical with the prolonged radius of the sphere, drawn from the point at which its image is made upon the retina. Upon close examination, however, it is found that this law cannot be optically correct, since the lines of direction cross each other at a point much anterior to the centre of the globe, as may be determined by drawing a diagram upon a large scale, and laying down the course of the rays received by the eye, according to the curvatures and refractive powers of its different parts. In this manner it has been determined by Volkmann, that the lines of direction cross each other in a point a little behind the crystalline lines; and that they will thus fall at such different angles on different points of the retina, that no general law can be laid down respecting them. It may be questioned, moreover, whether any such law would afford any assistance in explaining the phenomenon, since, after all, it is requisite to assume an intuitive application of it, in supposing the mind to derive its ideas of the relative situations of objects from the supposed line of direction. A much simpler and more direct explanation may be given. We must remember that which we have had occasion to notice in regard to all the other senses—the broad line of distinction between the sensation and the perception or elementary notion; and this is still more clearly shown by the complete absence of any relation but such as experience develops, between the perceptions derived through the sight, and those acquired from the touch. Hence there is no more difficulty in understanding that an inverted picture upon the retina should convey to us a notion of the external world, which harmonizes with that acquired through the sense of touch, than there is in comprehending the formation of any of those intuitive perceptions of animals, which are so much more removed from the teachings of our own experience. It is justly remarked by Müller, that, " if we do see objects inverted, [or rather, if the picture on the retina is inverted,] the only proof we can possibly have of it is that afforded by the study of the laws of Optics; and, if everything is seen reversed, the relative position of the objects remains unchanged. Hence it is, also, that no discordance arises between the sensations of inverted vision and those of touch, which perceives everything in its erect position; for the images of all objects, even of our own limbs, on the retina, are equally inverted, and therefore maintain the same relative position. Even the image of our hand, when used in touch, is inverted." From what has been stated, it would appear quite conceivable, that a person just endowed with sight, should not at first know by his visual powers whether a pyramid placed before his eyes is the same body, and in the same position, as one with which he has become acquainted by the touch, and if this be admitted,

the inference necessarily follows, that the notion of *erectness*, which we form by the combined use of our eyes and our hands, is really the product of experience in ourselves, whilst it is probably innate or intuitional in the lower animals.—*Carpenter's Principles of Human Physiology.*

2.—*Stammering in its relations with articulate sounds.*—Great as is the number of muscles employed in the production of definite vocal sounds, the number is much greater for those of articulate language; and the varieties of combination which we are continually forming unconsciously to ourselves, would not be suspected without a minute analysis of the separate actions. Thus, in uttering the explosive sounds, we check the passage of air through the posterior nares, in the very act of articulating the letter; and yet this important movement commonly passes unobserved. We must regard the power of forming the several articulate sounds which have been adverted to, and their simple combinations, as so far resulting from intuition, that it can in general be more readily acquired by early practice than other actions of the same complexity; so that we may consider these movements as having somewhat of the same consensual character as that which has been attributed to the purely vocalising actions. But there is in many individuals a deficiency of the power of rightly combining them, from which stammering and other imperfections result. Many theories regarding the nature of stammering have been proposed; and there can be little doubt that the impediment may be attributed to a great variety of exciting causes. A disordered action of the nervous centres must, however, be regarded as the proximate cause; though this may be (to use the language of Dr. M. Hall) either of *centric* or of *excentric* origin—that is, may result from a morbid condition of the ganglionic centre, or from an undue excitement conveyed through its afferent nerves. When of centric origin (and this is probably the most general case) the phenomena of stammering and chorea have a close analogy to each other; in fact, stammering is frequently one of the modes in which the disordered condition of the nervous system in chorea manifests itself. It is in the pronunciation of the consonants of the explosive class, that the stammerer experiences the greatest difficulty. The total interruption to the breath which they occasion frequently becomes quite spasmodic; and the whole frame is thrown into the most distressing semi-convulsive movement, until relieved by expiration.* In the pronunciation of the continuous consonants of the first class, the stammerer usually prolongs them, by a spasmodic continuance of the same action; and there is, in consequence, an impeded, but not a suspended respiration. The same is the case with the *l* and *r* in the second class. In pronouncing the *m* and *n*, on the other hand, as well as the aspirates and vowels, it is sometimes observed that the stammerer prolongs the sound by a full and exhausting expiration. In all these cases, then, it seems as if the muscular sense, resulting from each particular combination of actions, became the stimulus to the involuntary prolongation of that action. In some instances it is possible that the defect may result from malformation of the parts about the fauces, producing an abnormal stimulus of this kind in some particular positions of the organ; and such cases *may* be really benefitted by an operation for the removal of these parts. But the effect of the operation is evidently for the most part upon the nervous system; and it coincides with what may be frequently observed, that the stammering is increased under any unusual excitement, especially of the emotional kind.

The method proposed by Dr. Arnott for the prevention of stammering, consists in the connexion of all the words by a vocal intonation, in such a manner that there shall never be an entire stoppage of the breath. It is justly remarked by Müller, however, that this plan may afford some benefit, but cannot do every thing, since the main impediment occurs in the middle of words themselves. One important remedial means, on which too much stress cannot be laid, is to study carefully the mechanism of the articulation of the difficult letters, and to practise their pronunciation repeatedly, slowly, and analytically. The patient would at first do well to practise sentences, from which the explosive consonants are omitted, and his chief difficulty, arising from the spasmodic suspension of the expiratory movement, would be thus avoided. Having mastered these, he may pass on to others in which the difficult letters are sparingly introduced, and finally accustom himself to the use of ordinary language. One of the chief points to be aimed at, is to make the patient feel that he has command over his muscles of articulation; and this is best done by gradually leading him from that which he finds he *can* do, to that which he fears he cannot. The fact that stammering people are able to *sing* their words better than to *speak* them, has been usually explained on the supposition that, in singing, the glottis is kept open, so that there is less liability to spasmodic action; if, however, as here maintained, the spasmodic action is not in the larynx, but in the velum palati and the muscles of articulation, the difference must be due to the direction of the attention rather to the muscles of the larynx than to those of the mouth. Every one must have noticed how much the impediment of stammerers is increased when they are particularly anxious to speak fluently.—*Carpenter's Principles of Human Physiology.*

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* By Dr. Arnott this interruption is represented as taking place in the larynx; that this is not the case, a little attention to the ordinary phenomena of voice will satisfactorily prove.

3.—*On the Movements of the Heart.*—By M. Monod.—M. Monod had an excellent opportunity of examining the movements of the heart in an infant, which was born with thoracic ectopia, the parietes of the thorax being deficient, and the heart being visible to the eye. The pericardium also was wanting. The child lived 14 hours, but during this time many important facts were ascertained.

The contractions of the ventricles of the heart did not take place over its whole surface at the same moment, but progressed from the base to the apex; at the same time the organ became of a pale color, its surface wrinkled, a movement of twisting from right to left was observed, and lastly, the apex of the heart was carried upwards and forwards.

The diastole presented the same phenomena, but in an opposite order. The heart relaxed suddenly; then the ventricular cavity became filled with blood, swelled out, became elongated, and the apex was projected downwards. If the total duration of these two movements were divided into four equal spaces of time, it would be seen that the systole occupied three of these, the diastole only one.

The contractions of the auricles commenced in their free appendices; but in them the duration of the contraction and relaxation were in the inverse ratio of those of the auricles. The systole, or contractions, occupied only one-fourth of time, the diastole, or relaxation, three-fourths.

With regard to the order of the succession of movements, both ventricles contract at the same time, and both relax together; it is the same with the auricles. There are two periods of repose; one, which is the shortest, is between the first and second sound; the other, which is the longest, between the second sound and the first.

In this case the maximum of intensity of the first sound did not occur at the base of the ventricles, but at the middle of their fleshy walls; and M. Monod thinks that it was caused by the shock of the walls of the ventricles against the internal fleshy columns at the moment of contraction. As to the second sound, he thinks it was due to the return of the wave of blood against the sigmoid valves.—*Ed. Med. and Surg. Jour.*

4.—*Animalculæ in the Blood.*—The occasional existence of worms in the blood of a living animal, is a phenomenon that must excite the curiosity of every one. The allusions to such an occurrence in the writings of the old physicians are so imperfect and confused, that it is difficult to determine what amount of credit we can attach to them. If the observations of Welsch* and Polisius† on worms found within the heart of the human subject are not to be received as authentic, these authors having probably mistaken fibrinous concretions of the blood for actual worms, recent researches, however, have clearly shown that such entozoa do really sometimes exist in the hearts of some of the lower animals. M. Barkow‡ found in the right ventricle of a species of heron (*Ardea Cinerea*) two nematoids, which are now preserved in the museum at Greifswald; and M. Baer§ has discovered a peculiar species of the distoma (*d. duplicatum*) in the hearts of several Molluscous animals.

It is well known that a particular kind of worm (*Strongylus armatus minor*) is occasionally developed in the fibrinous concretions that form in aneurismatic arteries of Solipedous animals. The veins, too, of certain animals are not exempt from these entozoa. Treutler‖ found a species of *fasciola* in the pulmonary veins of a seal: and another kind of worm in the vena cava of a deer. Numerous authors have subsequently studied the particular species of *Strongyli*, that are occasionally met with in the venous sinuses at the base of the cranium, and also in the pulmonary veins of the *Delphinus Phocæna*. Schmitz, while observing the circulation in the mesentery of a frog, happened to observe the appearance of living animalcules existing in the blood. To ascertain if this was of frequent occurrence, he examined the blood of 53 lizards, and of 81 frogs, but without success. At length, however, in a frog, he again discovered in the blood animalcules similar to those which he had seen in the first instance. He observed that they made their way through the parietes of the vessels, and then burst and discharged the granular matter which their bodies appeared to contain—a phenomenon that has been repeatedly witnessed in certain *Polygastric* animalcules, &c. It is the opinion of M. Valentin that these blood entozoa, described by Schmitz, most nearly resemble the *Polystoma venarum* of which Treutler has given so minute an account.

M. Valentin himself has repeatedly found in the blood-vessels of frogs the *Anguilula intestinalis*. His idea is, that these animalcules are hurried along in the torrent of the circulation till they, as it were instinctively, stop in some organ that is best suited as a domicile for them; and that they then work their way through the parietes of the vessels. This author also mentions that a *Strongylus armatus* was recently discovered in the blood from the venæ cavæ of a horse; there was no trace of an opening in the walls of the vessel, or of any communication between it and the intestinal canal.

Dr. Vogt, while examining with a microscope the membrana nictitans of a frog, was surprised to find that the vessels, still filled with blood, contained numerous living animalcules, which moved about with great vivacity: similar animalcules were observed in the blood-vessels of other parts of the body. On inspecting the abdominal cavity of the animal, he observed several brown-coloured saccules, similar to those in which M. Valentin has occasionally met with *filariæ*. As he believed that these minute worms are the embryos of entozoa, he examined these saccules with great attention; but they were all quite empty.

In other frogs, however, in which these abdominal saccules existed, he found that many of them contained a *filaria*—the resemblance between which and the animalcules of the blood is very marked.

Valentin has recently described, in a letter addressed to Müller, some very curious phenomena which he observed in the blood taken from the abdominal aorta of a trout. On first examining it, he noticed a number of dark-coloured globules mixed with the globules of the blood; they were in rapid movement, without, however, changing their place. After the lapse of a short time, I was surprised, says he, to perceive first on the side of these globules a sort of transparent appendage, or tail; and subsequently that there was evolved an animalcule of an elongated shape, and which was continually in rapid motion round its own axis. This animalcule belongs probably to the old genus *Proteus*, or what Ehrenberg has called *Amœba*. Its length did not exceed from a 3 to a 5,000th part of an inch. Sometimes as many as ten, and even more, could be counted in a single drop of the blood; but in no other part of the body could they be discovered. The only other entozoa that were found were several ascarides in the pyloric appendages.

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* Disput. de Verme Cordis. Lips. 1694.

† Observ. de verm: in corde repert: (Ephem. Nat. Cur.)

‡ Observationes de Entozois. 1825.

§ Novæ Obs. de Entozois. 1829.

‖ Observ. Anatomicæ-Pathol: de Helminthologiâ. 1793.

M. Gluge of Brussels, has subsequently communicated to Müller's archives a description of an animalcule, which seems to be very similar to those mentioned in the preceding notice, and which he accidentally met with in the blood of a frog.

It seems, therefore, that the existence of entozoa in the blood of certain animals is by no means of very rare occurrence. As yet we know nothing of the manner in which they become developed; but further investigation of the subject may throw light on this very curious subject.—*Archives de Medicine Comparée*,* No. 1, Oct. 1842, from *Medico-Chirurgical Review.*

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5.—*Andral on Carbonic Acid exhaled during Respiration.*—The conclusions with which this accomplished *physiological*—not in the sense of the Broussaian School—physician sums up a long memoir which he recently read on the above subject, at the Royal Academy of Medicine, are the following:—

1. The quantity of carbonic acid exhaled from the lungs in a given space of time, varies with the age, the sex, and the constitution of the individual.

2. In the male, as in the female sex, the quantity is found to vary according to the age, independently of the bulk or weight of the person on whom the experiment is made.

3. At every period of life, between the eighth year and the most advanced age, a marked difference is observed in the quantity of the carbonic acid exhaled in the male, from what is found to be exhaled by the female. It is, *cœteris paribus*, always much more considerable in the former than in the latter. This difference is especially remarkable between the 16th and 40th years of age—a period during which the male very generally exhales almost twice as much as the female.

4. In the male, the quantity exhaled goes on steadily increasing from eight to thirty years of age. This increase is greatest at the period of puberty. After the 30th year, the proportion exhaled begins to decrease; the amount of decrease becoming more and more considerable in advanced age, so that in the latest period of life, it is nearly about the same as it was in early youth.

5. In the female, the exhalation increases according to the same law as in the male, during the period of childhood. But at the time of puberty, when the menstrual function begins to be developed, the increase—contrary to what occurs in the other sex—is suddenly arrested, and remains stationary (at nearly what it was in infancy) as long as this function continues in its integrity. When it begins to cease, the exhalation of carbonic acid from the lungs increases in a very remarkable degree. As the woman, however, advances to old age, it again decreases, and ultimately it becomes, as in the male sex, very small.

6. During the whole period of pregnancy, the exhalation is for the time increased to what is usually in women "parvenues a l'epoque de retour."

7. In both sexes, and at all periods of life, the amount of the exhalation is proportionally greater in persons of a robust constitution and of a muscular frame. Whenever the energies of the system are reduced from disease or otherwise, the quantity of carbonic acid exhaled from the lungs is found to be diminished.

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* (This is the first number of a new journal recently started in Paris under the immediate management of M. *Rayer*. It promises to be of great interest; the study of comparative pathology has hitherto been far too much neglected.—*Rev.*)

In conclusion, M. *Andral* remarked that the variations described above do not depend, as one might *à priori* imagine, on differences in the mere capacity of the thorax; although, as a matter of course, they are a good deal influenced by this cause.—*Encyclographie des Sciences Medicales*, from *ibid.*

PRACTICAL MEDICINE.

6. *Hæmaturia.*—The young practitioner is frequently at a loss to account for cases of bleeding from the urethra, and he may not be able at once to remember the opinions of standard authors on the subject. He may not know where the blood comes from, whether from the bladder, the urethra, the ureters, the prostate, or the kidneys; and his ignorance on this point will necessarily involve indecision in his treatment. One of the simplest means of knowing whether or not it be real blood which tinges the urine is to gradually boil the liquid. If it contain blood, a greyish-brown flocculent precipitate, consisting of coagulated albumen tinged with the coloring matter of the blood, will form and gradually subside, leaving the supernatant liquid clear and of its natural tint. Dr. Prout states that "when blood is derived from the kidney, it is in general equally diffused throughout the whole urine: on the contrary, when derived from the bladder, the blood for the most part comes away in greater or less quantity at the termination of the discharge, the urine having previously flowed off nearly pure." When the blood proceeds from the urethra, it will generally come away *guttatim*, or in a stream unmixed with urine, and neither preceded nor accompanied by any desire to make water. But there are many cases where it is almost impossible, from the absence of pain, &c., to fix upon the part whence the blood arises, and in these doubtful cases it will probably be found that the kidneys are the organs giving rise to it, from the existence of earthy concretions, which we know may form in the kidneys in great numbers, and to a considerable size, without furnishing any signal, except that of hæmaturia, which may lead us to suspect any mischief.

The *treatment* of hæmaturia must be exceedingly various. When the bladder is so distended that complete retention of urine takes place, recourse must be had to a large eye catheter and an exhausting syringe, by the aid of which, and the occasional injection of cold water, the coagula may be broken down and removed. If the hæmorrhage returns, injecting cold water into the rectum or bladder, and, if necessary, from twenty to forty grains of alum in each pint of water may be used. Dr. Prout says this seldom fails, even when the cause is malignant disease. Among internal remedies, *Ruspini's styptic*, recommended by Sir Benjamin Brodie in his published lectures, is no doubt a valuable medicine. Dr. A. T. Thompson says this consists in a solution of *gallic acid* in alcohol diluted with rose water. The French are very fond of the extract of *rhatany* root, the *krameria* of our Pharmacopœia. Dr. Watson gave this to a female in scruple doses three times a day, and the hæmaturia ceased after the first dose, although the affection had resisted treatment for some weeks. *Gallic acid* enters into the composition of this vegetable extract, and it is worthy of notice, that gallic acid is one of those substances, which, when introduced through the digestive organs into the blood, passes through the round of the circulation unchanged, and reappears in the urine: it is therefore proved to be a most useful astringent in more cases of hæmorrhage than those which arise from the urinary organs. The styptic virtues of the uva ursi, bistort, tormentil, pomegranate, kino, catechu, and the several preparations of gall-nuts, may likewise depend on the same principle, or rather, probably, on the *tannin*, as this exists in much greater proportions than gallic acid in most of these substances, although the medicinal effects are alike. In one hundred parts of rhatany root, Gmelin found thirty-eight parts of tannin, and Peschier forty-two parts. Hence we find its value, not only in internal hæmorrhage, but also in profuse mucous discharges, passive hæmorrhages, as metorrhagia, and in relaxation and debility of the solids. But in those mucous discharges which proceed from chronic affections of the urinary organs, we shall find that uva ursi and pareira brava are the two most valuable of our medicines. When combined with hyosciamus and persevered in for a *considerable time*, Dr. Prout says the uva ursi is of the greatest use: on the other hand, Sir Benjamin Brodie places much more confidence in pareira brava, which he uses with the greatest benefit in cases of "*discharges from the urino-genital mucous membranes;*" in chronic inflammation of the bladder especially, Sir B. Brodie thinks it has the greatest influence, "lessening very materially the secretion of the ropy mucus, and diminishing the inflammation and irritability of the bladder also." He gives it in the form of a concentrated decoction with tinct. hyosciam., and where there is a deposit of the triple phosphates, he accompanies it with the muriatic or diluted nitric acid. His formula is, half an ounce of the root in three pints of water, boiled down by gentle simmering to one pint: of this eight or twelve ounces may be taken daily.

While on this subject we will refer to the papers of Dr. Walker, of Huddersfield, and Mr. Soden, of Bath, who have found such an excellent effect in some affections of the bladder from a combination of benzoic acid and copaiba, which succeeded in some cases where the uva ursi and pareira brava had failed. Our readers will remember the interesting article we published in Retrospect No. IV., by Dr. Ure, on *hippuric acid*, which is formed in the system by the exhibition of benzoic acid. When benzoic acid or a soluble benzoic salt is taken, it changes the uric acid of the urine into this hippuric acid; and it has been discovered that the hippurates of soda, ammonia and potash, are much more soluble than the salts which uric acid forms; hence in some states of the urine the formation of hippuric acid as a substitute for the uric acid is of the greatest consequence, and considerably facilitates the cure. When the benzoic acid is combined with copaiba, it has been found both by Dr. Walker and Mr. Soden to be superior to the uva ursi and pareira brava in many cases of great irritability of the bladder accompanied with muco-purulent discharge. A drachm of benzoic acid, with half an ounce of balsam of copaiba, made into an eight-ounce mixture with the yolk of an egg, will be found an excellent remedy. Two table-spoonfuls may be given three times a day.—*Braithwaite's Retrospect.*

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7. *On Electro-puncture in the Treatment of Deafness, depending on a Paralysis of the Acoustic Nerve.* By M. JOBERT.—The paralysis of the acoustic nerve may be produced by exposure to a current of air, to too great a shock of the head, to waves of sound too violent, to affections of the teeth or of the gums. Electro-puncture has been already employed in these cases, but it had fallen into disrepute. The author believes that he uses it in a manner more direct and more rational; here is his proceeding:—Stard's sound, he says, is introduced through the nasal fossa into the Eustachian tube, and in this sound a long thin acupuncture needle is inserted, so as to fix itself in a point of the parietes of the Eustachian tube, while the other end projects from the end of the sound; another acupuncture needle is implanted in the membrane of the tympanum. This being done, one of the conducting wires of a galvanic battery, of which the trough is filled with water and muriatic acid, is passed through the eye of one of the needles, and the end of the other conducting wire is made to touch the opposite needle. I have used, in the beginning, eight pairs of the battery, then I got to ten, to twelve pairs; finally I have been as high as eighteen, and at present I have patients who have undergone several sittings, and on whom I have acted with the entire pile, the trough of which contains forty metallic pairs. At the moment that the two poles are put into contact, there is a very painful shock in the ear and in the head, with convulsive motions; but this shock and this pain cease immediately. In a single patient the impression was felt during eight days, but it never extended beyond a slight pain, which ceased of itself. It must be added, that the patients who were submitted to electricity in this manner, were, during some moments, as if stunned, and preserved some time after the experiment a bewildered look.

The sitting was usually confined to a single shock when the patients were irritable; I have given two and even three shocks in people whose sensibility was obtuse, and who have been already submitted to electro-puncture. In general I allow eight days to pass between each trial. The author then relates four cases of well marked deafness, and in which the cure was complete; in the first after a single shock, in the second after two shocks, and in the third after two sittings, each composed of three galvanic shocks.—*Dub. Jour. Med. Science,* from *L'Examinateur Medicale.*

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8. *On Solution of Gum Arabic in Scalds and Burns.* By Wm. Rhind, Esq., Edinburgh.—Among the various ingenious methods of protecting the injured surface from the contact of the atmosphere, in cases of scalds and burns, the application of a solution of gum arabic, from its simplicity and readiness of application, is worthy of notice. It is, perhaps, not so readily and universally obtained as the solution of common soap, used by Dr. Williamson, or the treacle and water, used by Mr. Buller; yet when it can be readily and quickly obtained, it will no doubt prove equally serviceable. When the skin is not destroyed, the parts are to be repeatedly smeared over with a solution; as often as one layer is dry, another is to be applied—and this may be repeated several times. Mr. Rhind says, in those distressing cases of the extensive burning of the bodies of young children, I would not hesitate applying the solution over the whole body, at about the warmth of 96°. It does not cool down the system by sudden evaporation or sudden abstraction of heat, like a common cold fluid—a circumstance in most cases to be dreaded—for gum is a bad conductor of heat; neither does it preclude an exposure to moderately cool air, which seems to keep down the excessive irritation consequent upon extensive scalding of the skin.

As it is of consequence to have the solution prepared instantly, the powdered gum, if it can be procured, may be in a few minutes dissolved in warm water. If this is not ready prepared, the common gum, in small particles, roughly pounded, will very soon dissolve, and the application in any case may be applied at a temperature of 96° or 100°, although in general it is more soothing when applied colder. Rancid gum solution should not be used, as in this state it has lost its adhesive quality. Two, three, or four applications may be necessary, at intervals of five or ten minutes. The skin should be previously freed of all oily matters, and the first coating, in order that it may be insinuated closely into the furrowed surfaces of the skin, should be rather thinner than the subsequent ones. In order to produce the proper effect, it should form a varnished coat of some thickness and closeness over the whole space of the burnt part.

With regard to the *modus operandi* of this substance, I am as much in the dark as we usually are with the mode of action of most other well-known remedies. I am unable to say whether it has a specific action, or whether it allays the inflammable irritation of the skin, by effectually excluding the external air, and by its being a bad conductor of heat.

The first proposition might be so far tested by trying if other gums and mucilages, or isinglass, for example, produced a similar effect. This I have not tried.

From some experiments, which, however, were never completed, that I instituted some years ago, regarding the influence of oxygen on inflamed tissues and vessels, I am inclined to think that the exclusion of atmospheric air influences very much inflammatory action, and in this way, perhaps, the gum solution checks the inflammation of the skin in burns. Inflammation caused by touching the skin with nitrous acid and other irritants, appears to be suddenly allayed by a solution of gum arabic; erysipelatous spots on the skin seemed also in some trials influenced by this application. And I may here suggest that it might be tried in the first stages of the pustules of small-pox, especially those of the face, with a view to modify their development, and prevent pitting.—*Braithwaite's Retrospect.*

We can add, from experimental knowledge, that starch, wheat, or rye-flour,

&c., answer the same purpose in cases in which the cuticle has been merely raised, and that the application is always attended with the most happy results.

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9. *A Cause of Phlebitis following Venesection.*—Dr. Sandri is of opinion that phlebitis consecutive to venesection, is sometimes occasioned by the oil which is used for the whetstone on which the lancets are sharpened. He thinks that this becomes rancid or acid from being kept for a length of time in a loosely stopped phial, and that it may form a poisonous compound by combination either with the oxide of iron of the lancet, or with the alkaline or earthy bases of the stone. On applying a small quantity of it to a slight ulceration it caused some considerable inflammation; and a dog was poisoned by being made to swallow a drachm of it; he likewise charged a lancet with it and bled a healthy young man in whose arm a tumor was raised and suppurated during six days. —*Annali Universali di Medicina.*

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10.—*Leucorrhœa cured by Iodine.*—M. Ch. Van Steenkiste has published the details of two cases of leucorrhœa treated with iodine injections, in the "Annales de la Societe Medico-Chirurgicale de Bruges." The first case in which he tried it was that of a seamstress, twenty-two years of age, of a scrofulous constitution, who had labored under leucorrhœa three years. The discharge was thick and abundant, and of a milky or slightly yellow colour. The patient presented all the symptoms of anæmia; the mucous membrane of the vagina was very pale, the cervix uteri red and tumefied. The genitals were excoriated. An injection, containing four scruples of iodine, sixty of alcohol at 25°, and 125 of common water was ordered for her, of which about thirty scruples were thrown up into the vagina. Heat and irritation were immediately experienced in the parts, and the discharge ceased entirely for three hours, returning then in larger quantity than ever, accompanied for a few minutes with very severe pain in the genitals, headache, and general spasms. These symptoms soon disappeared, and the discharge did not again return till the next day, when the same quantity of iodine was injected, less severe symptoms following its use. The catamenial secretion, which had been absent seven months, appeared towards evening, and continued for three consecutive days, unaccompanied by any other discharge. On its cessation, the leucorrhœa again showed itself, but in less quantity than before. M. Steenkiste, desirous of retaining the iodine more in contact with the vaginal mucous membrane than it had been previously, introduced a speculum, with the assistance of which he filled the vagina with five pieces of charpie, soaked with the iodine, and left them there, intending to remove them in an hour's time. Four of these pledgets were expelled by pains which came on in the interval, and when the surgeon sought to withdraw the fifth he could not introduce the speculum, the vagina was so contracted. The cure thus induced has been permanent, and the catamenia have again appeared. The second case was equally satisfactory.—*Provincial Medical Journal, April* 22, 1843.

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11.—*A New kind of Pessary.*—Mr. Snow has invented a new kind of Pessary, which consists of a piece of sponge cut into the form of a sphere, and tied up, by means of small twine or silk thread, in a circular piece of oil-skin, in such a manner that a small stem or tail, about half or three-quarters of an inch long, is left. The firmer kinds of sponge are to be preferred, and the oiled silk ought to be closed as firmly as possible by tying.

On compressing this pessary, the air in the cells of the sponge is gradually forced out at the neck, between the folds of the oil-skin, when it can be very readily introduced. When passed above the contracted part of the vagina, air soon re-enters the cells, and the instrument becomes expanded. The tail facilitates its removal at any time.

The advantages which Mr. Snow considers this pessary to possess, are:

1. Its capability of being diminished in size during its introduction and removal.
2. Its softness, which is such that it can scarcely cause any of the effects of a foreign body.
3. Its small weight.
4. The tendency of its elasticity to keep it in its position, for any sudden pressure of the viscera above will be spent in overcoming this elasticity, instead of forcing the instrument through the external parts, and such pressure will flatten it and make it wider, thus rendering its extrusion the less possible.

It also possesses the advantages of being cheap and durable.—*Med. Chir. Review, for July,* 1843.

SURGERY.

12. *Popliteal Aneurism cured by Pressure upon the Femoral Artery.*—In the May Number of the Dublin Journal of Medical Science, there are two cases of this disease cured by compression, reported. One case is by Edward Hutton, M. D., Surgeon to the Richmond Hospital, and the other is by Mr. Cusack. In the July Number, we find a third case reported by O'B. Bellingham, M. D., with observations; and of this last case, we propose presenting the leading features.

The tumor, which was about three inches in diameter, seated high in the popliteal space, had all the characteristics of a true aneurism. In consultation with Drs. Cusack and Hutton, it was determined to give a trial to pressure upon the artery above the tumor by means of Sir Philip Crampton's apparatus, which had been successfully employed in Mr. Cusack's case.

April 3d. The instrument was applied this day, the pad was placed upon the artery as it passes over the ramus of the pubis, and on the screw being tightened the pulsation in the aneurismal tumor ceased; in a minute or two it returned, and the screw was again tightened; this happened several times; in from five to ten minutes the limb presented a slight dusky color throughout; the patient complained of a feeling of cold in both lower extremities, which probably depended upon the exposure. After a short time the collateral circulation became evidently increased, and the vessels enlarged; the circumflex ilii and the epigastric artery could be felt beating strongly under the finger; the discoloration of the integuments ceased, but the entire limb appeared to be somewhat swollen. He began soon to complain of the pressure of the straps by which the apparatus had been secured above the pelvis, and I was obliged to loosen them. Subsequently it was found that the slightest movements of the patient were sufficient to disturb the pad, and thus remove the pressure from the artery. Although intelligent pupils remained beside him during the day and night, he could not bear sufficient pressure to stop the pulsation in the tumor for more than a few minutes at a time. The apparatus was consequently removed altogether the following morning; the skin at the part acted on by the pad had become red and painful; he felt also a sensation of numbness along the front of the thigh, the limb from the hip downwards was evidently larger than its fellow, and no impression appeared to have been made upon the aneurismal tumor.

The limb having recovered its natural appearance, the improved apparatus constructed by Mr. Millikin was applied on the 6th. The same phenomena followed the compression as were observed before; but at the end of about six hours, on changing his position to the affected side with the view to obtain some relief from pain, he was agreeably surprised to find that the pulsation in the aneurism was checked, notwithstanding the pad did not completely obstruct the current of blood. Six hours afterward, on loosening the screw to replace the pad, he found that all pulsation in the tumor had ceased; and four hours subsequently, when he had a call to stool, he found, on removing the pad, that the pulsation had not returned.

At nine o'clock, A. M., April 7th, [being five hours after the period last referred to,] he was visited, up to which time he had continued the application of the same degree of pressure; and on loosening the screw completely, no pulsation could be detected in the tumor, which felt solid, smaller than before, and hard: the limb had recovered its natural temperature, the feeling of numbness had disappeared, and the swelling in a great measure subsided. He was directed to remain perfectly at rest, and to continue the gentle pressure as before, the amount of which he was allowed to regulate by his own feelings.

On the 11th, the apparatus was altogether removed, the pressure, since the 7th, having been merely sufficient to diminish the amount of the current of the blood through the femoral artery. The tumor was now "about the size of a *small orange*," having a solid, hard, and rounded feel.

The vessels which carry on the collateral circulation are enlarged; the pulsation of the articular arteries about the knee is evident to the eye; the pulsation in the femoral artery is lost from the lower edge of the opening of the triceps, above which it appears to preserve nearly its natural strength and fulness. It may be necessary to mention, that the patient was bled, and during the treatment was kept upon low diet. In order further to quiet the circulation, he was prescribed a mixture, containing a small quantity of the tinctures of digitalis and hyoscyamus.

On the 22d, the tumor was smaller and harder, having the "size and shape of a *small egg*." Quere—*a wren's egg?* The patient was not permitted to leave his bed for another month, during which period a combination of camphorated mercurial ointment and hydriodate of potass ointment, was rubbed upon the ham.

On the 15th of June, the tumor was very small, and the limb was free from all uneasiness.

It thus appears that but a period of eight hours of pressure was necessary to cause all pulsation in the aneurism to cease, on unscrewing the pad.

The instrument employed upon the present occasion consists of a hollow splint, well padded, and of sufficient size to receive the nates and upper part of the thigh of the side upon which we intend to make pressure, and sufficiently long to reach from the crest of the ileum behind to the middle of the thigh. From the upper and outer edge of this splint, a strong steel strap passes upwards, then inwards and downwards, over the anterior superior spinous process of the ileum, until it meets another steel strap from the lower and inner side of the splint, to which the latter is attached by a screw, which permits of its being shortened or lengthened; at the situation where the two steel straps meet, the lower is fitted with a slide and the upper has a hinge; in addition there is a sliding box, slow tourniquet screw, and pad, with a sliding bar to prevent lateral motion. To the upper and inner edge of the splint a strong spring is attached, which embraces the opposite side of the pelvis, and is continued into a soft strap which passes over the abdomen and secures it above; while below, a soft strap passes round the middle third of the thigh.

Since the time of Hunter, through whose surgical knowledge the treatment of aneurism has been so much simplified, the older method of cure by compression has had few advocates; but at that period, pressure was applied immediately upon the tumor, while the entire limb was at the same time compressed by means of a bandage; and the patient, in addition, was generally subjected to Valsalva's treatment of perfect rest in the horizontal posture, very low diet, and frequent blood-letting. This mode of treatment, however, proved very tedious and painful, lasting many months; and besides, when it failed, as was not unusual, the increase of the aneurism subsequently was generally very rapid. It was, consequently, in a great measure, abandoned in aneurism of the larger arteries, while in aneurism of the smaller vessels, as the temporal and radial, and especially at the bend of the arm following blood-letting, it was still successfully employed.

"The application of pressure," says Mr. Bellingham, "to the vessel between the aneurism and the heart, with the view of either completely or partially obstructing the passage of blood through it, appears to be a much more recent practice. In the second volume of the Dict. des Sciences Medicales, Richerand has related perhaps the earliest case of the kind: it was that of a grocer in Paris, the subject of popliteal aneurism, who, by preserving the recumbent posture for twelve months, restricting himself to a low diet, with a bleeding once a month, and at the same time compressing the artery in the thigh by means of an instrument constructed on the same principle as a truss, was perfectly cured. In the third volume of the Lecons Orales, two cases of popliteal aneurism are related, in which compression was successfully employed at the Hotel Dieu by Dupuytren; in one the pulsation ceased in about three weeks; the apparatus employed was a semicircle of steel, with a concave cushion at one extremity, and a pad at the other, capable of being moved by a spring and screw; it is commonly known as Dupuytren's compressor. Dupuytren had recourse to pressure only, because the patient refused to submit to operation. He never appears to have employed this method subsequently; indeed he looked upon these two successful cases as the result of some happy chance which might occur once or twice in the course of a long practice, rather than as the effect of a proceeding worthy of being adopted and recommended; it being well known that in several instances popliteal aneurism has undergone a spontaneous cure after the patient had been admitted into hospital for the purpose of undergoing operation. Two cases of this kind occurred some years since at the Meath Hospital, where a bandage had been simply placed round the limb, which could have produced little or no pressure, and was not intended to act in that way. More recently another case occurred to Dr. Brunker in the Louth Infirmary, the details of which have been given in the Medical Press.

"In the eighth volume of the Medical and Physical Journal, Sir Astley Cooper has described an instrument for compressing the femoral artery, which was employed in one case of popliteal aneurism by Sir William Blizard; although the patient possessed unusual fortitude, he was not able to bear the pressure longer than nine hours. A similar apparatus is mentioned by Sir Philip Crampton in a communication contained in one of the early volumes of the Medico-Chirurgical Transactions, to have been tried in a case of popliteal aneurism, in which he afterwards assisted the late Mr. Dease to operate, but no force that could be borne was sufficient to stop the pulsation in the ham. Mr. Samuel Cooper has given a description of it in his Surgical Dictionary, and adds, that 'few patients can endure the pressure of such instruments for a quarter of the time which Sir William Blizard's patient was able to bear it, when put on sufficiently tight to afford any chance of obliterating the artery; and on account of the suffering they occasion, they are rarely used by modern surgeons.'

"A very ingenious instrument for compressing the femoral artery was subsequently invented by Mr. L'Estrange, and employed with success by Sir Philip Crampton and Mr. M. Collis at the Meath Hospital, in some cases where secondary hæmorrhage occurred after the operation of tying the femoral artery. The late Mr. Todd, some years ago, successfully applied compression (by an instrument different from any of those alluded to) in one case of popliteal aneurism; it was also used with success, though under most unfavorable circumstances, by Mr. M'Coy, in a case of femoral aneurism, which he brought before the Surgical Society at a late meeting. I am not aware that this instrument was subsequently tried."

To Mr. Hutton is due the credit of reviving the practice of pressure in the cure of popliteal aneurism—a practice which is discouraged by all modern works on surgery. This opinion has no doubt arisen from the universal belief, that to cure an aneurism by compressing the artery above the tumor, the complete interruption of the current of the blood through the vessel is essential.

"When it was considered," says Mr. B., "absolutely necessary for the success of compression, that such an amount of pressure should be applied as was almost certain to produce sloughing of the part, and very certain to occasion intense pain and suffering to the patient; and when, in addition, this was to be prolonged through five successive nights and days; we can readily understand why patients refused to submit to it; and we can easily account for the disrepute into which the practice fell, and for the unwillingness of surgeons to adopt this treatment, in preference to the simple operation of placing a ligature upon the femoral artery. It would however appear, that it is not at all essential, that the circulation through the vessel leading to the aneurism should be completely checked; it may, perhaps, be advantageous at first, for a short period, by which the collateral circulation will be more certainly established; but the result of this case, if it does no more, establishes the fact, that a partial current through an aneurismal sac will lead to the deposition of fibrine in its interior, and cause it to be filled and obstructed, so as no longer to permit of the passage of blood through it. Pressure, in order completely to obstruct the circulation in an artery, must necessarily be slower in curing an aneurism, as it must in some measure act, by causing obliteration of the vessel at the part to which the pressure has been applied; whereas a partial current through the sac enables the fibrine to be readily entangled in the parietes of the sac, in the first instance, and this goes on increasing, until it becomes filled; the collateral branches having been previously enlarged, the circulation is readily carried on through them.

"It appears to me, that in resorting to compression in popliteal aneurism, with the view of causing the sac to be filled up by fibrine, we should never neglect the accessory measures, known as Valsalva's plan of treatment, which alone have been sufficient to effect the cure of aneurisms of large size. In fact, I look upon bleeding and low diet as material aids in bringing about the cure by pressure. Bleeding will cause the blood to coagulate more rapidly, but it may be said that it will also have the effect of hurrying the circulation; we have, however, in digitalis, a very efficient means of diminishing the frequency of the action of the heart and arteries and of quieting the circulation, when the patient is kept in the horizontal posture; and if we take into account the condition of the vessels when the amount of the circulating fluid is diminished, we shall find that the sac of the aneurism is placed in a very favorable position for entangling the fibrin, which, if it continues to be deposited, will ultimately lead to the obliteration of the sac, and the cure of the aneurism."

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13. *On a New Way of Operating for Cataract.* By John Morgan, Esq., F. L. S., Surgeon to Guy's Hospital.—The pupillary aperture having been dilated by the application of belladonna to the eyebrow, the patient is to be placed as in cases of operation for depression, the eye to be operated upon being towards the light, and the head of the patient fixed by an assistant opposite to the breast of the operator, and against his own. I always prefer the sitting to the recumbent posture, except in operations for extraction, as there is an advantage gained by seeing down into the globe as you depress the lens to its destination. The needle which I use is extremely fine, of the same thickness from the point to the handle; cutting at the point, but not at the sides, and hardly longer than the diameter of the globe. In all operations on the eye, I invariably use a very short needle; which is, in my opinion, much more convenient than one of the usual length. The point of the instrument is now to be passed through the sclerotic, at the distance of rather more than a line from its junction with the cornea, and just below its transverse diameter; it is then to be carried,

with a slight inclination forward, directly through the central substance of the cataract, completely transfixing the lens. This part of the operation requires a good deal of careful management: the object will be to disturb surrounding parts as little as possible, by transfixing the lens *in situ;* and this is to be effected, not by pushing the point of the needle at once directly onwards, but by carefully drilling its way through the opaque body by rotating the handle of the instrument as it is held between the thumb and forefinger, while the point at the same time is gently urged onward. Having thus insured complete transfixion by drilling, the first step of the operation is accomplished; and it will be seen that the second can now be performed with the greatest ease and precision—I mean the dislocation and depression of the lens, which must of necessity follow the exact course of the point of the instrument by which it is impaled; and as the needle has been introduced below its transverse diameter, it will be *pulled*, instead of *pushed* down, and thus be effectually prevented turning on its axis into the vitreous humor as it is descending—an occurrence which will sometimes take place during the operation as at present performed, and which, for obvious reasons, it is desirable to guard against. Another advantage gained by transfixion is, that all chance of injuring the retina by the pressure of the lens, either from its slipping from the point of the instrument during the operation, or from its having been unconsciously left resting on that membrane after its completion, all danger of amaurosis from such causes is removed; for we have such perfect command over the opaque body, that we can determine to the greatest nicety the exact course it will take in its descent, as well as the precise situation in which it will be left after the needle is withdrawn. The course should be so directed, that the anterior surface of the lens passes hardly a line distant from the corpus ciliare and retina, taking a curved sweep as it descends, corresponding with the concave curvature of the interior of the globe; and it should be left as nearly as possible with its upper circumference a line below the lower edge of the widely-dilated pupil. Very great care is required in disentangling the instrument from the cataract, as it is being withdrawn from the globe; and this should be done by drilling the needle *out* from the depressed lens as it lies, without changing the direction of the handle of the instrument till it has been liberated in the same manner as it has been drilled *in* while the lens was *in situ;* for by neglecting this precaution, the lens will follow the point of the instrument, and be either raised again or forcibly dragged against the retina as the instrument is drilled out. Should any portion of an opaque capsule remain in the pupillary aperture after depression, it should be brought into the anterior chamber, if possible, with the point of the needle, before it is withdrawn from the globe, and after it has been disentangled from the lens. But I would recommend caution in cutting up a *posterior* capsule, lest the cells of the vitreous humor should be broken down in doing so; for, as I have already stated, I consider the preservation of their integrity very essential to the *success* of an operation for depression.

The exact course of the lens may certainly be well directed when it is thus fixed to the end of the needle, and as little of the vitreous humor as possible is thereby displaced, so that the hyaloid membrane is comparatively unbroken, and thus acts as a powerful agent in preventing the future ascent of the lens; but we question whether this advantage will compensate for the risk of *drilling* the needle into the lens, and then *drilling* it out again. We suspect, that if the lens were harder than usual, it would be even more displaced than by the simple operation of depression, and when it had become depressed on the point of the needle, cases would occasionally occur in which it might be difficult even to extricate it from the lens.—*Braithwaite's Retrospect.*

14.—*Statistics of Cancer.*—The following are the results of researches on the prevalence of this disease throughout France, which have been made with much care and accuracy on the part of M. Le Roy d'Etiolles:—

Of 2781 cases occurring in the practice of 174 surgeons, 1227 happened in individuals above forty, and 1061 to others above sixty years of age. The cases of cancer of the uterus were about thirty per cent.; of the breast twenty-four per cent. Cancer of the mouth was in women only as one to one and a half per cent., while in men (probably from the use of the tobacco pipe) it was as much as twenty-six per cent. Cancers supposed to have been of hereditary transmission, figured only as 1 in 278(?); while those induced by scrofula were as 1 in 10; and those by syphilis as 1 in 5.

The most useful part of the inquiry is that which is brought to bear upon the utility or otherwise of operating on cancers. Out of 1172 patients not operated on, 18 lived for more than thirty years after the first appearance of the disease; while out of 801 operated on by excision or caustic, the existence of only 4 was prolonged for a similar lapse of time; 14 patients operated on, and 34 not operated on, lived for a period of from twenty to thirty years, and 88 in the first category, and 228 in the second, lived from six to twenty years after the first appearance of the disease. The ordinary duration of life after this period among persons not operated on, is said to be five years for men, and five and a half for women; while among those operated on, it is no more than five years and two months for men, and six years for women.

From these results the natural conclusion is, that the ablation of cancer (leaving out of account the risks attending the operation itself) does little, even when successful, to prolong life, and is therefore (in France at least) of very questionable utility. Results like these, startling as they may seem, and however they may demand subsequent corroboration, are, at least, indications of the light which statistical science is enabled to throw upon the actual and relative value of many of the aids in medicine and surgery, of which we at present avail ourselves.—*London Lancet, June 3d*, 1843.

OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.

15. *Medical Report of the Western Lying-in Hospital and Dispensary*, for the years 1841–42. By Fleetwood Churchill, M. D. etc., Physician to the Hospital, and R. D. Speedy, Esq., etc., Surgeon to the Hospital, etc.

These records include the delivery of 1206 women, but from these we must deduct 43 cases of abortion, leaving 1163 cases of labor at full time.

The number of children amounted to 1175, (691 males, and 484 females,) of which 63 (44 males and 19 females) were still-born, or died at birth; of these

12 were premature.
15 " still-born.
2 " putrid.
4 " footling cases.
8 " breech presentations.
1 " head and hand presentation.
3 were arm presentations.
3 " funis presentations.
6 " crotchet cases.
2 " forceps cases.
1 " placenta prævia.
4 " syphilitic.

* * * * *

In 1008 cases the presentation was as follows:
In 941 the head presented.
13 the hand descended with the head.
22 the breech presented—8 dead.
18 the feet do. 4 do.—the funis prolapsed in 3.
6 the funis do. 4 do.
5 the arm do. 3 do.—two of them putrid.
2 the placenta do. 1 do.

There were *thirteen* cases of twins. In *four* cases the children presented naturally—*six* children were saved, and *two*, which were premature, died. In *six* cases one child presented the breech and the other the head—*ten* were born alive, *two* were lost. In *one* case one child presented footling and the other the head—*both* were saved. In *another*, one child presented the head and the funis, and the other the foot and funis—*both* were lost. In a *third* case both the children presented the feet and funis, and were *lost*.

In *ten* cases there was hæmorrhage between the birth of the child and the expulsion of the placenta; in *six* of which manual extraction was necessary, but no unfavorable results followed.

In *six* cases flooding occurred before delivery—*three* were cases of *accidental*, and *three* of *unavoidable* hæmorrhage. The rupture of the membranes was sufficient in the accidental and in one of the unavoidable cases, and the mothers and the children recovered. It was necessary to turn and deliver the child in the other two cases—*one* of the mothers died and *one* recovered; *one* of the children was saved.

Seven patients were attacked by *convulsions*—all recovered.

One fatal case of *uterine phlebitis* occurred, and several slight attacks of *hysteritis*, which were relieved by the usual treatment.

We met with *one* fatal case of *rupture of the uterus.*

Version was performed *six* times (1 in 243); *five* times on account of presentation of the arm—all the mothers recovered, and three children were saved, the others were putrid; and *once* because of unavoidable hæmorrhage.

The *forceps* were used in *eight* cases (1 in 182.) *Seven* of the mothers recovered, and the death of the remaining *one* was caused by disease of the heart.

In *eight* cases the *perforator* was employed (1 in 182.) *Six* of the mothers recovered, and *two* died—one from rupture of the uterus, as recorded above, and one from disease af the liver.

Of the 1463 women attended during these two years, only *five* died, or 1 in 292. *One* sank from disease of the liver, *another* from disease of the heart, a *third* after unavoidable hæmorrhage, a *fourth* from uterine phlebitis, and the *fifth* from ruptured uterus.

* * * * * *

Since the establishment of the hospital, seven years ago, 3211 women have been attended, of whom 15 died, or 1 in 214.

There occurred 4 cases of unavoidable hæmorrhage—1 in 802.
" 6 do. " accidental hæmorrhage 1 in 525.
" 34 do. " hæmorrhage after labor 1 in 94.
" 10 do. " convulsions (3 lost) 1 in 321

Version was practised in seventeen cases—1 in 188. Sixteen recovered. Six children saved.

The forceps were used in eleven cases—1 in 291. Ten recovered. Seven children saved—two putrid.

The perforator was employed in twenty cases—1 in 160. Seventeen recovered.—*Dublin Journal of Med. Science, July*, 1843.

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16. *Sterility.*—It appears, according to the official report on the Sanitary Condition of the Laboring Population in Great Britain, made by the Poor-law Commissioners, that the great mortality in large towns, instead of proving a check to the increase of population, is, on the contrary, accompanied by a proportion of births to the number of inhabitants actually higher than in rural districts, in which the ratio of deaths is much lower. For example, "In Manchester, where one twenty-eighth of the whole population is annually swept away, the births registered amount to one in 16 of the whole population; while, in the county of Rutland, where the proportion of deaths is one in 52 of the population, the proportion of births is only one to 33."

Mr. Chadwick subsequently proves, by the result of last year's registration, that "there has been an increase in the population from births alone in those parts of the country where the proportionate mortality is greatest."

In connection with these unexpected results, the following remarks by Dr. Henry McCormac, in his "*Methodus Medendi*," possess much interest:

It is remarkable (he says) that habitual excess in eating and drinking proves adverse to fertility; and such, I take it, is the principal source of the sterility of the rich; this has even been observed in the inferior animals. Habitual plethora seems to indispose to fruitfulness; while poor people, with a bare sufficiency, if even that, have houses swarming with offspring. The prolific tendencies of the Irish are well known: barren marriages are rare among them. Fish-eaters, ichthiophagi, who have to work hard, and live without excess, are proverbially fruitful. Hence it is that the reproductive tendencies of a people—a problem vainly attempted by Malthus and others, is in the inverse ratio of their comforts, and not merely of their numbers, as conjectured by Sadler. Hence, also, the poorer and more wretched a population, within certain limits, the more prone to increase. In other respects, the poor follow, but do not precede the promptings of nature. The rapidity which the void left by famine, war, and epidemics, fills up, has been frequent matter of observation, and is readily enough explained by the increased facilities of subsistence and consequent inducements to marriage among survivors. In two or three instances, by enjoining separate apartments for a time, simple sparing regimen, the shower-bath, and exercise in the open air, I have reason to believe that the wishes of parents, previously childless, were successfully promoted.

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17. *Reparative Energies of Woman.*—Profuse menstruation does not weaken in proportion to the quantity of the blood lost; indeed, as a general remark, it seems to be true that women can bear copious hæmorrhages much better than men. They recover their strength and color much more quickly. A man will remain pale and enfeebled for some months after a great loss of blood, but a woman, under equally favorable circumstances, will be herself again in one half the time. The menstrual evacuation required that nature should endow the female constitution with more powerful means to repair losses of blood, the hæmorrhages before and after confinement, the drain, so to speak, on the system for the nourishment of the infant, &c., demanded more efficient reparative energies. A practical consequence of immense importance may be deduced from these considerations. They impress upon us the necessity of placing but little reliance on blood-letting in the treatment of women affected with sub-inflammatory affections, in consequence of the rapidity with which losses of blood are repaired, and consequently indicate the superior value of a regulated and spare diet, by which the supply of nutritive matter to the system may be kept in check. This important truth is to often quite overlooked in practice, and, in very many cases, the most judicious medical treatment is virtually rendered null by inattention to the arrangement of the diet.—*Medical Times.*

TOXICOLOGY AND MEDICAL JURISPRUDENCE.

18. *M. Orfila on a New Antidote of Corrosive Sublimate.*—M. Mialhe recently announced to the Royal Academy of Medicine that, having taken a solution of corrosive sublimate into his mouth, he found that the disagreeable taste was almost immediately dissipated by washing his mouth out with some proto-sulphuret of iron recently prepared and mixed with water. From this circumstance he inferred that the latter substance might act as an antidote of the former, and decompose it, giving rise to the chloruret of iron and the sulphuret of mercury—compounds which do not act poisonously on the living body. To ascertain the correctness of this opinion, I instituted, says M. Orfila, the following experiments:

a. I prepared 100 grammes of the proto-sulphuret of iron by decomposing the proto-sulphate of the metal with the hydrated sulphuret (sulf-hydrate) of ammonia. The mixture was put into a large stoppered flask, kept constantly full of water, in order to avoid the contact of the atmospheric air—which would not have failed to have converted the proto-sulphuret into a per-sulphuret. The precipitate having all fallen down, I decanted off the liquid with a syphon, and then I filled the flask with water and corked it securely. When by repeated washings—always carefully excluding the contact of air—the liquid was found to contain no traces either of the sulphate of iron or of the sulf-hydrate of ammonia, I gave a middle-sized dog about the tenth part of the proto-sulphuret suspended in water, and then immediately afterwards 60 centigrammes of corrosive sublimate dissolved in 100 grammes of water: the œsophagus of the animal was tied, and kept so for 22 hours. With the exception of several dejections from the bowels, it did not exhibit any of the usual symptoms of poisoning with the sublimate, and appeared on the whole to be very little inconvenienced, (not even with a ligature around its œsophagus?) On the next and following days, "il se portrait à mearveille." A similar experiment was performed on another dog, and with similar results.

b. I introduced, by means of an elastic-gum tube, into the stomach of a dog, 60 centigrammes of corrosive sublimate, dissolved in 100 grammes of water, and immediately afterwards a quantity of the proto-sulphuret of iron similar to what was used in the first experiment: the œsophagus was tied, and kept so for 12 hours. The animal did not suffer more than in the first instance, and next day it had perfectly recovered.

c. The same quantity of the poison was given to another dog, and ten minutes were allowed to elapse before the dose of the proto-sulphuret was administered; in other respects the animal was treated as before. After the lapse of four hours, the ligature was removed from the œsophagus. The animal died in the course of the night, having exhibited all the usual symptoms of poisoning with corrosive sublimate. The conclusions I draw from these experiments are—

1. That the proto-sulphuret of iron completely neutralises the poisonous properties of corrosive sublimate, if it is administered in a sufficiently large dose immediately after the ingestion of the latter.
2. That, like the best accredited antidotes, it fails, if it be not administered for 10 or 15 minutes after the poison has been swallowed.
3. That—while we admit that the proto-sulphuret decomposes the corrosive sublimate much more energetically and efficiently than albumen does, and that therefore it should be preferred whenever it is at hand, so that it can be administered immediately after the poison—the medical man should never lose any time in waiting for it, but at once give the white of eggs blended with water freely in all cases of poisoning with this salt of mercury.—*Journal de Chimie.*

MISCELLANEA.

19. *Examination of the Body of the late Mr. Tyrrell, fifty-six hours after Death.—Chest.*—The pleura closely adherent throughout the whole of the right side of the chest, by old adhesive bands. On the left by a few only.

The right lung hepatised, or consolidated, nearly throughout its whole extent; there being only a very small portion that was crepitant on pressure. The mucous membrane of the lower portion of the trachea and right bronchus thickened, and of a dark brick-dust hue. Left lung engorged with blood, but crepitating tolerably on pressure.

The pericardium considerably distended, and containing from an ounce and a-half to two ounces of dark fluid blood. On the posterior aspect of the right auricle, the investing pericardium, to a considerable extent, had a rough, depressed, and by the aid of a lens, an ulcerated appearance; while the opposite surface of the loose pericardium, to the same extent, had a granular or tuberculated appearance, very similar to the tuberculous accretions which we find occasionally on the peritoneum; there were two or three adhesive bands connecting these two surfaces.

The heart itself was twice the natural size; the muscular fibre pale, flaccid, and flabby, and collapsing; the cavities of both ventricles much dilated, but without hypertrophy of the walls; the left ventricle more especially dilated;

in the right ventricle were two or three delicate filaments of lymph of considerable strength, stretching between the carneæ columnæ and chordæ tendineæ, and across the cavity, the evident result of former endocarditis. All the valves of the heart and aorta were perfectly natural.

The liver was enlarged, very much indurated, especially at the superior portion of the right lobe, and granular throughout.

Signed,
H. S. Roos, M.D.
C. Aston Key.
George Beamen.
James Dixon.
William Trew.

Note.—The fluid blood in the pericardium was most probably exuded from the depressed and apparently ulcerated surface of the pericardium before stated.—*Lon. Med. Gazette, for June,* 1843.

2.

American Medical Intelligence.

The Library of the New York Hospital.

Sir,—Through the medium of your Journal, allow me to invite the attention of the medical profession to the valuable library of the New York Hospital. Rich in the works of the ancient masters, as well as those of modern times, amply supplied with British, French, and American periodicals, and with plates illustrative of General, Special, and Pathological Anatomy, it affords facilities to the prosecution of medical and surgical inquiries unequalled by any similar library in this city. Numbering at present nearly 5000 volumes, and increasing by frequent additions of foreign and domestic publications, it merits and it should receive more general attention from the profession.

From its foundation in 1796 to about 1815, its growth and increase depended upon valuable donations granted from time to time by the Governors of the hospital and the liberality of several members of the medical profession. Since the latter period its augmentation and preservation have depended, for the most part, upon the monies arising from the sale of tickets to students, who were desirous of attending the practice of the institution. But few members of the profession have availed themselves—as for a small consideration many might have done—of the advantages and benefits to be derived from the study or perusal of the valuable collection which it contains. Among the numerous works recorded in the catalogue are many which are illustrated by expensive plates, and which the private practitioner cannot, without inconvenience, place on his shelves. Those of Cruveilhier, Carswell, Bright, Hope, Annesley, Rayer, Cooper, &c., richly merit the attention of every practitioner.

The Library contains treatises on Agriculture, Botany, Horticulture, Geology, Mineralogy, Natural History, Natural, Experimental, and Moral Philosophy, the Arts and Sciences, Chemistry, Electricity, Galvanism, Medical Biography and Literature, the Theory and Practice of Medicine, Surgery, Materia Medica, and Pharmacology, Anatomy, General, Descriptive, Pathological, and Comparative, Physiology, Midwifery, and the Diseases of Women and Children, &c. Also a selection from English, French, and American periodicals.

It is hoped that this brief notice of the Library of the New York Hospital will suffice to awaken a lively interest in the profession for its future welfare and growth, and that the aim of the Governors to render it as available as possible will meet with a corresponding spirit on the part of the medical community.

The Library is open daily from 12 to 1 P. M.

John S. Vandervoort, M. D., Librarian.

To Samuel Forry, M. D.

—

Herculean Treatment of Dysentery.—We make the following extract from a private communication, dated October 3d, from Dr. P. Fahnestock, of Pittsburgh, Pa.

There has recently prevailed in this vicinity, about two miles from the city, an endemic dysentery, characterized by considerable febrile action, with frequent mucous or bloody evacuations, and violent tormina and tenesmus. It attacked both sexes and all ages indiscriminately, and among them I attended from sixty to eighty cases. As my treatment was peculiar, and as its success confirmed its propriety, (but three cases having proved fatal,) I will state how I managed them.

In the case of an adult patient of either sex, having ten or twelve stools per hour, consisting of blood and mucus alone, accompanied with great tormina and tenesmus, I usually gave from six to fifteen grains of pulverized opium, with from xx. to xxx. grs. of calomel; but if the pulse was full and frequent, this treatment was premised by general blood-letting and the application of leeches to the anus. In six or eight hours after the administration of the medicine, I prescribed the following:

℞. Ol. Ricini, ℥iss.
Spir. Terebin ℥ss.

These were my maximum doses; and after the operation of the oils, I gave calomel and Dover's powder in small doses, with gum water as a drink, and rice and arrow root as diet. It was seldom found necessary to repeat the calomel and opium. To children, six or eight years old, I gave as much as four or five grains of opium, without producing more than a few hours' sleep.

—

Notes on the Treatment of Rigidity of the Os Uteri by means of Tartar Emetic, and on the use of Strychnine in Influenza. By David Gilbert, M. D., Gettysburg, Pa.

Tartar Emetic in Tardy Labor.—We are frequently called to cases in which labor has commenced, but the progress is slow, both on account of the insufficiency of the uterine contractions and rigidity of the os tincæ. These cases are most frequently found to occur in patients of tense fibre, and rather robust constitutions. Bleeding produces some relaxation, but rarely hastens the labor; since, in most instances, it does not add anything to the vigor of the pains. Several years ago, while in attendance upon such a case, wishing to expedite the labor, I felt a very strong desire to administer the *secale cornutum*, but was prevented by reflecting upon the well-ascertained effects of that powerful agent under such circumstances. The question whether some other article of the *materia medica* might not be advantageously exhibited, then presented itself to me. Relaxation of the *os uteri* and expulsive contractions, were the principal desiderata. Emesis in the commencement is always looked upon as a symptom of speedy labor; *ergot* also produces nausea, and frequently vomiting. In evacuating the stomach, the diaphragm, abdominal muscles, &c., are called into violent action: these same muscles aid the uterus in its expulsive efforts; hence emesis may be looked upon as a powerful means of exciting labor and producing efficient expulsive contractions of the uterus, because the same set of associated organs are in action; and such is the sympathy between the stomach and uterus, that contractile efforts are easily transferred from the former to the latter, the more especially since the uterus is about to take on such action of its own accord. Again, while emesis excites, and is accomplished in part by the associated contractions of the muscles constituting the abdominal parietes, it also produces relaxation of the other parts of the system, and of none more certainly than the os uteri, under these particular circumstances. Reasoning thus, I was induced to make a trial of tartrate of antimony and potass, in doses of half a grain the first portion, and then a quarter of a grain every fifteen minutes, until emesis; and as soon as retching commenced, the uterine contractions strengthened, and the labor terminated speedily. I have frequently used the tartar emetic since, and always with the most satisfactory results.

I was not then aware that this remedy had been used by Ramsbotham, who, speaking of rigidity of the os uteri, says that "antimony, in doses sufficient to keep up a feeling of nausea, has been exhibited in these cases with marked effect."

Strychnine in Influenza.—The prevailing epidemic influenza, made its first appearance, during the present season, in Gettysburg, Pa., about the 1st of July. The disease was characterized by the usual symptoms. About two-thirds of the whole number of inhabitants became subjects of the disease, not one half of whom, however, deemed the malady of sufficient severity to require medical advice. A few of the cases to which our attention was called, were complicated with bronchitis, arachnetis, rheumatism, &c. In two cases severe nervous ear-ache was the leading symptom; in one case, periodical neuralgia of the supra-orbital nerve, came on every morning at 8 o'clock. Observation soon convinced us that this disease, in the commencement, had its seat in the *nervous system*, which was in a depressed state, not yielding its normal quota of nervous influence; and that after this, the *mucous tissue* was the next to suffer. Having succeeded with *strychnine* in many of those diseases denominated *neuroses*, in which there was *no inflammation or congestion of the nervous centre*, we supposed that in this affection its use might be followed with results equally favorable; and we therefore resolved to use the remedy upon ourselves, provided there was an opportunity. With this we were *favored* about two weeks ago, when, whilst under the influence of mere nervous sedation and irritability, with a commencing derangement of the mucous tissue of the head, we took a full dose of the medicine; and we were happy to find ourselves relieved in a few hours of every symptom. We were soon after called upon by a young gentleman, who was attacked with the prodromic symptoms, to whom we gave a portion, which also cut short the disease. Our next case was that of a female æt. 50, subject to occasional paroxysms of hysteria. We found her in the chill with violent pains in the head, back, and extremities, accompanied by hoarseness and cough Gave comp. ext. colocynth grs. x., and blue mass, grs. v., as a laxative, to be aided by sulph. magnesiæ, if necessary. After the intestinal canal was evacuated, we exhibited the strychnine; and in twelve hours the patient was free from the disease. We have since exhibited this potent nervine in a number of cases with equally good effects, always first subduing any local inflammation which might be present.

—

Honors from Abroad.—We learn that Professor Valentine Mott was elected an honorary member of the Royal Academy of Medicine of Belgium, on the 29th of October, 1842. The Academy elects its own members. The nomination of those receiving degrees and honors is under the *agrégation*, (*soumise à l'agrégation*,) of the king.

—

A Dinner by the Physicians of New York.—A dinner will be given by the "*New York Society for the Relief of the Widows and Orphans of Medical Men*," at the American Hotel, on Wednesday, November 8th, at 5 o'clock, P. M., in which the profession generally are invited to participate.

Tickets may be procured from Dr. Delafield, the President of the Society, from any one of the following committee, viz., Drs. Jas. Macdonald, J. H. Borrowe, John Revere, J. C. Beales, and John Stearnes, or at the book-store of J. & H. G. Langley, 57 Chatham-street.

As the arrangements for the dinner will depend on the number of tickets distributed, those who intend to join in the anniversary are respectfully invited to procure their tickets at an early period.

As it is seldom that the physicians of this city, who are too much estranged from one another by causes to them unavoidable, have an opportunity of indulging in the pleasures of social communion, it is to be hoped that no one will fail to avail himself of the occasion here presented.

—

The coming Session of the New York Schools.—We referred to this subject in our last Number, stating that last winter there were nearly 400 medical students in this city, and that it was every way probable that the number this winter would not fall short of 500. In this *prognosis*, as the doctors learnedly say, we are fully confirmed by present indications; for it is said at the schools that the number now present exceeds by fifty per centum, the number present last year at the corresponding date; and that these students, who are mostly from the southern States, give accounts authorizing the most favorable anticipations.

—

Surgeon J. M. Foltz, United States Navy, well and favorably known to the readers of this Journal, has been appointed to the Frigate Raritan. The Raritan will be the flag-ship on the coast of Brazil, where she will remain one year; and thence she will proceed to the Mediterranean, where she will finish her cruise. Our readers will all, doubtless, join us in wishing him a "*bon voyage.*"

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